Affidavit of Person Submitting a No Further Action Report

Required pursuant to Section 20114d(5) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NEREPA), 1994 PA 451, as amended, to be submitted by a person submitting a No Further action (NFA) report to Michigan DEQ. All terms found in this document which are defined in Part 3, Definitions, and Part 201, Environmental Remediation, of NREPA shall have the same meaning as in the statute.

State of Michigan

County of Wayne

!. I, David Favero am authorized to submit this affidavit on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust under MCL 324.20114d(5).

2. A No Further Action (NFA) report dated February 9, 2018 is being submitted for a portion of the facility referred to as Former Grand Rapids Metal Plant Facility and the portion of the Facility is located at 300 and 301 36th Street SW, Wyoming, Michigan (the "portion of the Facility.")

3. The purpose of the NFA report is to detail the completion of remedial action at the portion of the Facility, and includes a postclosure plan (i.e., Declaration of Restrictive Covenant).

4. The remedial action at the portion of the Facility described in the NFA report was conducted in compliance with all applicable local, state, and federal laws and regulations.

5. I affirm to the best of my knowledge and belief that the NFA report prepared for the portion of this Facility, and all information, data, documents and reports relied upon for this NFA report, are true, accurate and complete.

Signature of Affiant

Sworn to before me and subscribed in my presence this 9th day of February, 2018.

Notary Public

TRACIE L. NICHOLS
Notary Public, State of Michigan
County Of Wayne
My Commission Expires 03-19-2023
Acting In the County of Wayne

EQP4031 (REV. 11/7/12)

Environmental Consultant Affidavit for No Further Action Report

Required pursuant to Section 20114d(5) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NEREPA), 1994 PA 451, as amended, for the Environmental Consultant who prepared a No Further Action (NFA) report that is being submitted to Michigan DEQ. All terms found in this document which are defined in Part 3, Definitions, and Part 201, Environmental Remediation, of NREPA shall have the same meaning as in the statute.

State of Michigan

County of Kalamazoo

1. I, Jennifer Quigley, am an Environmental Consultant whose title is, Project Manager, and I am employed by GHD.

2. I meet the professional qualifications set forth in MCL 324.20114e(2) of NREPA. A description of my qualifications, including education and work experience, is attached.

3. I have prepared a No Further Action (NFA) report dated February 9, 2018 for the facility referred to as Former Grand Rapids Metal Plant Facility and located at 300 and 301 36th Street SW, Wyoming, Michigan (the "Facility.") The tax identification number and legal description of the property are described in Exhibit 1. I am submitting this affidavit pursuant to MCL 324.20114d(5).

4. I prepared the NFA Report at the request of David Favero, RACER Trust, 500 Woodward Avenue, Suite 2650, Detroit, Michigan.

5. The remedial action at the Facility described in the NFA report was conducted in compliance with Part 201 of the NREPA, and all other applicable local, state, and federal laws and regulations.

6. I affirm to the best of my knowledge and belief that the NFA report prepared for this Facility, and all information, data, documents and reports relied upon for this NFA report, are true, accurate and complete.

Jeni Quigley

Signature of Affiant

Sworn to before me and subscribed in my presence this 9th day of February, 2018.

ROBIN ELAINE BETKE
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF KALAMAZOO
My Commission Expires June 26, 2020

Robin Elaine Betke

Notary Public

Jennifer Quigley
Associate/Project Manager

Qualified: B.S. Environmental Engineering, Michigan Technological University, 1997

Connected: Registered Professional Engineer: MI; Member West Michigan Chapter, Air and Waste Management Association

Professional Summary: Jeni has over 19 years of environmental assessment, compliance, and remediation experience, including senior technical support for complex and highly confidential environmental assessments. Jeni has specific expertise in management of multi-disciplinary teams of professionals on complex industrial/manufacturing facility environmental assessments and serves a variety of clients, including large automotive manufacturers, suppliers, PRP groups, attorneys, and educational institutions. Jeni is part of GHD's environmental site assessment senior peer review group.

Project Manager/Project Assessor
Environmental Due Diligence and Compliance Analysis | Various Clients | United States, Mexico, Turkey, Italy, and Australia

Project manager/assessor responsible for Phase I to IV Environmental Site Assessments and/or Compliance Analysis in support of acquisition/divestiture for various properties including the following: various residential properties, various vacant/undeveloped properties, various light manufacturing facilities, hospital, former psychiatric hospital, furniture distribution center, alcohol blending and bottling facility, warehouses, former and current automotive dealerships, railroad tracks, petroleum distribution center, induction heating system manufacturing facility, baked goods/confections and cultivated plant production and distribution facility, inactive fertilizer plant, silk screening facility, hybrid corn seed laboratory, metal scrap processing facilities, office/commercial facilities, cardboard manufacturing facility, metal forging facilities, school administrative building and bus maintenance garage, various current and former automotive manufacturing, assembly, and research and development complexes (greater than 1 million square feet in size), inactive pharmaceutical research and development complex (greater than 1 million square feet in size), flour mill, commercial bakeries and warehouses, and biodiesel facility.

Project Manager responsible for the development of various environmental plans including: Spill Prevention Control and Countermeasures, Pollution Incident Prevention, Stormwater Pollution Prevention, Slug, and Hazardous Waste Contingency Plan for a variety of facilities.

Project Manager
Former Grand Rapids Metal Plant | Automotive Trust | Wyoming, MI

Project manager responsible for the investigation activities conducted voluntarily under Michigan Act 451, Part 201 at a former automotive manufacturing facility. Main contaminants consist of chlorinated volatile organic compound, polynuclear aromatic hydrocarbon (PNA) and light non-aqueous phase liquid (LNAPL) impacted groundwater, and PNA, polychlorinated biphenyl (PCB), and metals impacts to soil. Primary activities include compliance and permitting activities, on and off-site delineation investigation activities, evaluation of prior remedial alternative (groundwater pump and treat and soil vapor extraction system) effectiveness and permitting requirements, development and submittal of appropriate Work Plans and Data Reports to the MDEQ, liaison with MDEQ, local officials, facility personnel, and subcontractors, evaluation of alternative remedial options, and implementation of the excavation of PCB, PNA, and metals-impacted soils.

Project Manager
Former Dowagiac Landfill | Local Unit of Government | Dowagiac, MI

Project manager responsible for evaluation and activities conducted under Michigan Act 451, Part 201 associated with a former landfill property. Main contaminants consist of volatile organic compounds and metals in groundwater, and landfill gas. Primary activities include historical documentation review, landfill gas and groundwater OM&M activities, development of work plans, and liaison with MDEQ, site personnel, and subcontractors.

Project Manager
Former Plainwell, Inc. Mill Property Superfund Site | Paper Manufacturer | Plainwell, MI

Project manager responsible for RI/FS activities conducted pursuant to a Consent Decree for an NPL site. Primary activities include implementation of the RI, development of the RI and FS reports, implementation of interim remedial excavation activities, development of RD reports, and liaison with EPA, MDEQ, project stakeholders, and subcontractors.

Project Manager
Bulk Petroleum Terminal | Petroleum Company | Ferrysburg, MI

Project manager responsible for investigation activities conducted under Michigan Act 451, Part 201 at a bulk petroleum terminal. Main contaminants consist of PNAs

and VOCs in soil and groundwater. Primary activities included historical document review and current conditions evaluation; on-site soil and groundwater investigation activities, groundwater monitoring activities, and report development and submittal.

Project Manager
Alpine Avenue Property | Automotive Manufacturer | Walker, MI

Project manager responsible for the investigation of a 12-acre former CERCLA 103(c) landfill. Primary activities include investigation and review of alternatives for development of an Interim Remedial Action Plan in support of redevelopment subsequent to brownfield property transfer.

Project Coordinator
Rockwell International Superfund Site| Automotive Manufacturer | Allegan, MI

Project coordinator responsible for the on-site oversight and implementation of a Removal Action Work Plan in a residential area under a CERCLA 106 Unilateral Administrative Order. Main contaminants included PCBs and lead in soil. The Work Plan included the excavation of approximately 6,000 tons of non-Toxic Substances Control Act (TSCA) and 6,000 tons of TSCA-impacted soil.

Project Manager
Bofors Nobel Superfund Site | Chemical Manufacturer | Muskegon, MI

Project manager responsible for the implementation of the Operations and Maintenance Plan (OMP) and Hygienic Groundwater Sampling Plan portions of the Interim Response Activity Plan (IRAP) for the Operating Plant Area of the Bofors Nobel Superfund site. Primary activities include: annual inspection of asphalt cover in vicinity of impacted soils; annual collection of groundwater samples from hygienic wells; and submittal of results to the MDEQ.

Project Coordinator
Former Landfill Property | PRP Group | Otsego, MI

Project coordinator responsible for investigation activities conducted under Michigan Act 451, Part 201 at a former landfill property in Otsego, Michigan. Main contaminants consist of chlorinated volatile organic compounds in groundwater. Primary activities included on-site soil, groundwater and soil gas investigation activities, groundwater monitoring activities, and report development and submittal.

Project Coordinator
Building Decommissioning | Automotive Manufacturers | Michigan and Indiana

Project coordinator/engineer responsible for providing engineering support for Building Decommissioning Assessments for industrial manufacturing facilities in Kalamazoo, Lansing, and Pontiac, Michigan and Anderson, Indiana. Primary activities included: field inventory of process equipment and fixtures; development of specifications; collection of representative samples of materials; and engineering support in the preparation of various proposals, cost estimates, and reports.

Project Manager
Automotive Dealerships | Automotive Manufacturer | Florida and Texas

Project manager responsible for limited mold inspection and remediation at automobile dealerships. Primary activities consisted of the management of local certified staff in implementation of the limited mold inspection and remediation efforts, which included: visual site inspections; limited ambient air microbial survey; removal and restoration of impacted areas; and development and submittal of applicable reports.

Other related areas of interest

Recognized (Certifications/Trainings)

- OSHA 40-hour Hazardous Waste Worker, Refresher, 2015

Published Refereed Papers

- "Michigan Site Cleanup Program Amendments – Finally Getting GSI Right", Michigan Chemistry Council's Friday Facts, September 27, 2013 and Michigan Manufacturers Association's Regulatory Report (with G. Klepper)

Work history

1998 – present	Associate, GHD (formerly Conestoga-Rovers & Associates), Plainwell, MI
	Named Associate, 2014
1995	Dell Engineering, Inc., Holland, MI

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Willis of Massachusetts, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 372305191 USA	PHONE (A/C, No, Ext): 1-877-945-7378	FAX (A/C, No): 1-888-467-2378
	E-MAIL ADDRESS: certificates@willis.com	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
GHD Services Inc. 2055 Niagara Falls Blvd., Ste 3 Niagara Falls, NY 14304 USA	INSURER A : Allied World Assurance Company (U.S.) Inc.	19489
	INSURER B : Zurich American Insurance Company	16535
	INSURER C : Lexington Insurance Company	19437
	INSURER D : AIG Specialty Insurance Company	26883
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** W4355027 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC [ ] OTHER:	Y	Y	0310-4497	12/01/2017	12/01/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 25,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [X] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY [X] Coll Ded: 500 [X] Comp Ded: 250	Y	Y	BAP 3757423-02	07/01/2017	07/01/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Hired Physical Damag	$ 1,000,000 $ $ $ $ 100000
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: No (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	Y	WC 0380936-02	07/01/2017	07/01/2018	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
C	Professional Liability			031710989	12/01/2017	12/01/2018	Each Claim/Aggregate	2,000,000.00

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

SEE ATTACHED

CERTIFICATE HOLDER

To Whom It May Concern-GHD Services Inc

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Julia M Powers

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AGENCY CUSTOMER ID: _____

LOC #: _____

ADDITIONAL REMARKS SCHEDULE

AGENCY Willis of Massachusetts, Inc.	NAMED INSURED GHD Services Inc. 2055 Niagara Falls Blvd., Ste 3 Niagara Falls, NY 14304 USA
POLICY NUMBER See Page 1	
CARRIER See Page 1 / NAIC CODE See Page 1	EFFECTIVE DATE: See Page 1

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

Additional Insured status can be granted as above only where required by written contract.

General Liability policy can be Primary and Non-contributory with any other insurance in force for or which may be purchased by Additional Insured where required by contract or agreement.

Waiver of Subrogation can be applied as above in favor of Certificate Holder where required by contract or agreement.

INSURER AFFORDING COVERAGE: AIG Specialty Insurance Company NAIC#: 26883
POLICY NUMBER: CPO 14247915 EFF DATE: 12/01/2017 EXP DATE: 12/01/2018

ADDITIONAL INSURED: Y
SUBROGATION WAIVED: Y

TYPE OF INSURANCE:	LIMIT DESCRIPTION:	LIMIT AMOUNT:
Pollution Liability	Each Occ/Aggregate	2,000,000.00

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SR ID: 15294805 BATCH: 510937 CERT: W4355027

Coverage Extension Endorsement

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
BAP 3757423-02	7/1/2017	7/1/2018	7/1/2017		---	---

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Business Auto Coverage Form
Motor Carrier Coverage Form

A. Amended Who Is An Insured

1. The following is added to the **Who Is An Insured** Provision in **Section II – Covered Autos Liability Coverage**:

The following are also "insureds":

a. Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow for acts performed within the scope of employment by you. Any "employee" of yours is also an "insured" while operating an "auto" hired or rented under a contract or agreement in an "employee's" name, with your permission, while performing duties related to the conduct of your business.

b. Anyone volunteering services to you is an "insured" while using a covered "auto" you don't own, hire or borrow to transport your clients or other persons in activities necessary to your business.

c. Anyone else who furnishes an "auto" referenced in Paragraphs **A.1.a.** and **A.1.b.** in this endorsement.

d. Where and to the extent permitted by law, any person(s) or organization(s) where required by written contract or written agreement with you executed prior to any "accident", including those person(s) or organization(s) directing your work pursuant to such written contract or written agreement with you, provided the "accident" arises out of operations governed by such contract or agreement and only up to the limits required in the written contract or written agreement, or the Limits of Insurance shown in the Declarations, whichever is less.

2. The following is added to the **Other Insurance** Condition in the Business Auto Coverage Form and the **Other Insurance – Primary and Excess Insurance Provisions Condition** in the Motor Carrier Coverage Form**:**

Coverage for any person(s) or organization(s), where required by written contract or written agreement with you executed prior to any "accident", will apply on a primary and non-contributory basis and any insurance maintained by the additional "insured" will apply on an excess basis. However, in no event will this coverage extend beyond the terms and conditions of the Coverage Form.

.

All other terms, conditions, provisions and exclusions of this policy remain the same.

Includes copyrighted material of Insurance Services Office, Inc., with its permission.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: **Where required by written contract**

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

B. With respect to the insurance afforded to these additional insureds, the following exclusion is added:

2. Exclusions

This insurance does not apply to "bodily injury" or "property damage" occurring after:

(1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or

(2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: **Where required by written contract**
Location And Description of Completed Operations: **Where required by written contract**
Additional Premium: **N/A**

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".

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ENDORSEMENT NO. 4

This endorsement, effective 12:01 AM, December 1, 2017

Forms a part of Policy No: CPO 14247915

Issued to: GHD HOLDINGS U.S. LLC

By: AIG SPECIALTY INSURANCE COMPANY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED(S) ENDORSEMENT

It is hereby agreed that Section **VI. DEFINITIONS,** Paragraph **K. Insured** is amended by adding the following scheduled entity(s) as additional **Insured(s)** but solely as respects liability arising out of the **Covered Operations** performed by or on behalf of the **Named Insured.**

Additional **Insured**(s)

As required by written contract executed prior to a Claim or Loss.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

EXHIBIT 1

LEGAL DESCRIPTION AND ILLUSTRATION OF PROPERTY

Land situated in the City of Wyoming, Kent County, Michigan and more particularly described as follows:

300 36th St SW – Tax identification number - 41-17-24-201-007

78THAT PART OF W 1/2 NE 1/4 LYING E OF E LINE OF CONRAIL RR R/W / 100 FT WIDE/ & LYING S OF SLY LINE OF 36TH ST /100 FT WIDE/ EX COM AT INT OF S LINE OF NE 1/4 & W LINE OF BUCHANAN AVE / 80 FT WIDE/ TH N 87D 59M 30S W ALONG E&W 1/4 LINE 828.27 FT TH N 47D 10M 30S E 46.67 FT TO N LINE OF S 33 FT OF NE 1/4 TH S 87D 49M 30S E 695.3 FT TH NELY 125.8 FT ALONG A 101.8 FT RAD CURVE LT /LONG CHORD BEARS N 56D 46M 24S E 117.95 FT/ TO W LINE OF SD AVE TH SLY 101.4 FT TO BEG * SEC 24 T6N R12W 74.92 A. * ALSO LOTS 147 TO 152 INCL & PART OF LOTS 144 145 146 153 154 & 155 & PART OF VACATED PORTIONS OF FLOYD ST & 40TH ST & DR LYING W OF LOTS 148 & 149 ALL BEING DESC AS - COM AT NW COR OF SD PLAT TH S 87D 49M 30S E ALONG N LINE OF SD PLAT 358.58 FT TO WLY LINE OF RELOCATED STAFFORD AVE /66 FT WIDE/ TH SWLY ALONG WLY LINE OF SD AVE 37.04 FT ALONG A 165.0 FT RAD CURVE LT /LONG CHORD BEARS S 48D 52M 25S W 36.97 FT TH S 42D 26M 30S W ALONG SD WLY LINE 243.88 FT TH SWLY ALONG SD WLY LINE 117.22 FT ALONG A 290.59 FT RAD CURVE LT /LONG CHORD BEARS S 30D 53M 08S W 116.42 FT/ TO A PT 16.51 FT S 0D 02M 30S E & 0.43 FT S 87D 49M 30S E FROM SW COR OF LOT 146 TH N 87D 49M 30S W PAR WITH S LINE OF LOT 148 & SD S LINE EXT 132.43 FT TO W LINE OF SD PLAT TH N 313.78 FT M/L TO BEG * MCQUEEN DOYLE PARK NO.1*

301 36th St SW – Tax identification number - 41-17-13-455-052

411713455052 LOT 883 EX N 9 FT ALSO LOT 884 & 885 ALSO THAT PART OF LOTS 886 TO 891 INCL LYING N OF N LINE OF 36TH ST /100 FT WIDE/ ALSO LOTS 892 & 893 ALSO LOT 894 EX N 9 FT ALSO LOT 922 ALSO THAT PART OF LOT 923 LYING N OF N LINE OF 36TH ST /100 FT WIDE/ ALSO THAT PART OF VACATED PORTION OF HILLCROFT AVE /60 FT WIDE/ DESC AS - COM 249 FT N ALONG E LINE OF SD AVE FROM SW COR OF LOT 891 TH S ALONG SD E LINE TO N LINE OF 36TH ST /100 FT WIDE/ TH W ALONG SD N LINE TO W LINE OF SD VACATED AVE TH N ALONG SD W LINE TO A PT 249 FT N ALONG SD W LINE FROM SE COR OF LOT 923 TH E TO BEG ALSO THAT PART OF VACATED PORTION OF BIRCHWOOD AVE /60 FT WIDE/ DESC AS - COM AT SE COR OF LOT 885 TH N ALONG W LINE OF SD VAC AVE 122 FT TH E TO A PT ON E LINE OF SD VACATED AVE 122 FT N ALONG SD E LINE FROM SW COR OF LOT 842 TH S ALONG E LINE OF SD VACATED ST TO SW COR OF LOT 841 & TO N LINE OF 36TH ST /100 FT WIDE/ TH W ALONG SD N LINE TO W LINE OF SD VACATED ST TH N TO BEG * HOME ACRES NO.2 SPLIT ON 07/02/2009 FROM 41-17-13-455-044, 41-17-13-455-046, 41-17-13-455-048; SPLIT/COMBINED ON 01/08/2013 FROM 41-17-13-455-050, 41-17-13-455-049, 41-17-13-455-051;

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - REMEDIATION AND REDEVELOPMENT DIVISION
PO BOX 30426, LANSING, MICHIGAN 48909-7926, Phone 517-284-5087, Fax 517-241-9581

Request for DEQ Review of No Further Action (NFA) Report

This form is required for submittal of a request for the DEQ to review a No Further Action Report, under Section 20114d, Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Section A: NFA Category (Check all that apply:)

Residential	☐	Unrestricted	☐
Non-Residential	☒	Restricted	☒
20b(3) Site Specific or Surrogate *(no generic criteria available)*	☐	20b(2) Site Specific *(modification of generic critera)*	☐

The NFA addresses the entire facility ☐
(entire facility as defined by Part 201, all releases, hazardous substances, and environmental media):

The NFA does not address the entire facility ☒
The NFA covers the properties located at 300 and 301 36th Street SW, Wyoming, Michigan only and does not include the area to the north of these properties where impacts above Part 201 GRCC have been identified in groundwater.

NFA relies on a De minimus determination of GSI impact pursuant to Section 20120e(14): ☐

Section B: Facility Information:

Facility Name: The Former Grand Rapids Metal Plant

Street Address of Property: 300 and 301 36th Street SW

City: Wyoming State: MI Zip: 49080

Property Tax ID (include all applicable IDs addressed by the NFA)
41-17-24-201-007 and 41-17-13-455-052

Status of submitter relative to the property (check all that apply):

	Former	Current	Prospective
Owner	☒	☐	☐
Operator	☒	☐	☐

County: Kent County
City/Village/Township: City of Wyoming
Range: 12W Section: 13 and 24
Town: 6N
Quarter:NE Quarter-Quarter: NW and SW

Decimal Degrees Latitude: 42.8987559°

Decimal Degrees Longitute: -85.7240454°

Reference point for latitude and longitude:
Center of site ☒ Main/front door ☐
Front gate/main entrance ☐ Other ☐

Collection method:
Survey ☐ GPS ☒ Interpolation ☐

Section C: Submitter Information:

Entity/person requesting review:

Contact Person (name and title): David Favero, Deputy Cleanup Manager- Michigan

Submitter's Address: 500 Woodward Avenue, Suite 2650

City: Detroit State: MI Zip: 48226

Telephone: 734.879.9525 E-Mail: dfavero@racertrust.org

Relationship of Contact Person to the Submitter:

Owner Name, if different from Submitter:
Wyoming Brownfield Redevelopment Authority

Company: Wyoming Brownfield Redevelopment Authority

Owner Address: 1155 28th St SW City: Wyoming State: MI

	Zip: 49509
Telephone: 616.530.7226	E-Mail: HoltC@wyomingmi.gov

Section D: Facility/Property Subject to (Check all that apply):

Facility regulated under Part 201, source other than listed below or source unknown Part 201 Site ID, if known: 41000115	☒
Leaking Underground Storage Tank regulated pursuant to Part 213. Part 211/213 Facility ID, if known:	☐
Oil or gas production and development regulated pursuant to Part 615 or 625	☐
Licensed landfill regulated pursuant to Part 115	☐
Licensed hazardous waste treatment, storage, or disposal facility regulated pursuant to Part 111	☐
Consent Agreement or other legal agreement with the MDEQ	☐

Section E: Are/were the following present at the facility (Check all that apply):

	Current	Previously	Unknown
Mobil or migrating non aqueous phase liquids (NAPL)	☐	☐	☐
Soil contamination above residential criteria	☒	☐	☐
Soil contamination above non-residential criteria	☒	☐	☐
Soil aesthetic impacts	☒	☐	☐
Groundwater contamination above residential criteria	☒	☐	☐
Groundwater contamination above non-residential criteria	☒	☐	☐
Groundwater aesthetic impacts	☐	☒	☐
Soil Gas contamination above residential vapor intrusion (VI) screening levels	☐	☐	☒
Soil Gas contamination above non-residential VI screening levels	☐	☐	☒
Conditions immediately dangerous to life or health (IDLH)	☐	☐	☐
Fire & Explosion hazards related to releases	☐	☐	☐
Contamination existing in drinking water supply	☐	☐	☐
Imminent threat to drinking water supply	☐	☐	☐
Impact to surface water	☐	☐	☐
Impact to surface water sediments above screening levels	☐	☐	☐
	☐	☐	☐

Section F: The following questions assist MDEQ in evaluating the No Further Action Report:

Have other plans or reports, BEAs, DDCCs, NFAs, etc. been submitted for this facility? None for these parcels

Facility Name, if different than this submittal:

Date and Name of most recent submittal:

Response Activities or Remedial Action that have been Implemented (Check all that apply):

	Current	Previously
Excavation	☐	☒
Physical or Engineered Exposure Barrier	☐	☐
Active Soil Remediation System	☐	☒
In-situ Soil Remediation	☐	☐
Active Groundwater Remediation System	☐	☒
In-situ Groundwater Remediation	☐	☐
Groundwater Monitored Natural Attenuation	☐	☐
Containment, Physical or Hydraulic	☐	☐
Vapor Intrusion Barrier	☐	☐
Vapor Intrusion Remediation System	☐	☐
Other, Specify:		

Remedial Action Relies on (Check all that apply):

Mixing Zone	☐
Part 201 Section 20118(4) and (5)	☐
MIOSHA demonstration (Section 20120a(18))	☐
Restrictive Covenant	☒

Institutional Control (Section 20121(8))	☐
Alternative Instruments (Section 20121(9)	☐

Post Closure Plan and Components:

Post Closure Plan Required? Yes ☒ No (Residential, Unrestriced Category Only) ☐

Plan Includes:

- Permanent Markers ☐
- Restrictive Covenant ☒
- Other Institutional Controls ☐

Post Closure Agreement and Components:

Post Closure Agreement Required? Yes ☐ No ☒

Agreement Includes:

- FAM ☐
- FAM, de minimus ☐
- Waiver of Permanent Marker ☐

Section G: Attachments (Required):

	Yes
Environmental Professional's Affidavit is attached:	☒
Environmental Professional's Certificate of Insurance is attached:	☒
Submitter's Affidavit is attached:	☒

Section H: Environmental Professional Signature:

With my signature below, I certify that this report and all related materials are true, accurate, and complete to the best of my knowledge and belief.

Signature: Jeni Quigley Date: February 9, 2018

Printed Name: Jennifer Quigley

Company: GHD

Mailing Address: 200 Allegan Street, Suite 300 City: Plainwell State: MI Zip: 49080

Telephone:269.685.2725 E-mail: jeni.quigley@ghd.com

Section I: Submitter Signature:

With my signature below, I certify that this report and all related materials are true, accurate, and complete to the best of my knowledge and belief and I am legally authorized to sign for the submitter.

Signature: _____ Date: Feb 9, 2018

(Person legally authorized to bind the legal entity)

Printed Name: David Favero

Title and Relationship of signatory to submitter: Deputy Cleanup Manager - Michigan

Address: 500 Woodward Avenue, Suite 2650 City: Detroit State: MI Zip: 48226

Telephone: 734.879.9525 E-Mail: dfavero@racertrust.org

This form and the No Further Action Report should be submitted to the DEQ Remediation and Redevelopment Division District Office unless the response activity is related to a facility that is regulated by another DEQ Division. A district map is located at www.michigan.gov/deqrrd. If regulated by another division, contact should be made with that division for information on where to submit the form and report.



No Further Action Report

Former Grand Rapids Metal Plant Facility
300 & 301 36th Street SW
Wyoming, Michigan

Prepared for: Revitalizing Auto Communities Environmental Response (RACER) Trust

GHD | 200 Allegan Street Suite 300 Plainwell Michigan 49080 USA

017360 | T12Y18 | T01Y18 | Report No 34R.1 | February 9 2018

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List of Acronyms and Abbreviations

AMSL	Above Mean Sea Level
AOF	Acetylene, Oxygen, and Ferrolene
AST	Aboveground Storage Tank
BEA	Baseline Environmental Assessment
bgs	below ground surface
CCR	Current Conditions Report
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CLCD	Cadillac Luxury Car Division
COC	Chemical/Contaminant of Concern
Consumers	Consumers Energy Company
CPC	Chevrolet-Pontiac-GM of Canada
CRA	Conestoga Rovers & Associates
CSM	Conceptual Site Model
cVOC	Chlorinated Volatile Organic Compound
DCC	Direct Contact Criteria
DO	Dissolved Oxygen
DOT	Department of Transportation
DWC	Drinking Water Criteria
DWPC	Drinking Water Protection Criteria
FESL	Flammability and Explosivity Screening Levels
FOIA	Freedom of Information Act
ft bgs	feet below ground surface
ft/ft	foot per foot
GHD	GHD Services Inc.
GMC	General Motors Corporation
GM LLC	General Motors Company LLC
GSIC	Groundwater Surface Water Interface Criteria
GSIPC	Groundwater Surface Water Interface Protection Criteria
GVIAC	Groundwater Volatilization to Indoor Air Inhalation Criteria

HI	Hydrogeological Investigation
HSA	Hollow Stem Auger
IC	Institutional Control
LNAPL	Light Non-Aqueous Phase Liquid
LUST	Leaking Underground Storage Tank
MAC	Michigan Administrative Code
MCL	Maximum Contaminant Limit or Michigan Compiled Laws
MDEQ	Michigan Department of Environmental Quality
MDNRE	Michigan Department of Natural Resources and Environment
MDOT	Michigan Department of Transportation
MFD	Metal Fabrication Division
MGD	Million gallons per day
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MLC	Motors Liquidation Company
MSDS	Material Safety Data Sheet
NAO	North American Operations
NFA	No Further Action
NOM	Notice of Migration
NPDES	National Pollutant Discharge Elimination System
NREPA	Michigan Natural Resources and Protection Act
NWI	National Wetlands Inventory
ORP	Oxygen Reduction Potential
PAH	Polynuclear Aromatic Hydrocarbon
Part 201	Part 201, Environmental Remediation, 1994 PA 451 as amended
Part 201 Criteria	Part 201 Cleanup Criteria
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	parts per million
PSIC	Particulate Soil Inhalation Criteria

PVC	Polyvinyl Chloride
RACER Trust	Revitalizing Auto Communities Environmental Response Trust
RC	Declaration of Restrictive Covenant
RCRA	Resource Conservation and Recovery Act
SDBL	State Default Background Level
SDWA	Safe Drinking Water Act
Site	Former Grand Rapids Metal Plant Property
SVIAC	Soil Volatilization to Indoor Air Inhalation Criteria
SVOC	Semi Volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TDO	Tool and Die Operations
TSCA	Toxic Substances Control Act
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VA	Vertical Aquifer
VAS	Vertical Aquifer Sampling
VOC	Volatile Organic Compound
VSIC	Volatile Soil Inhalation Criteria
WBRA	The City of Wyoming Brownfield Redevelopment Authority
WWTP	Waste Water Treatment Plant

1. Introduction

GHD Services Inc. (GHD) has prepared this No Further Action (NFA) report on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust for the former Grand Rapids Metal Plant property located at 300 and 301 36th Street SW in Wyoming, Michigan (Site). The former Grand Rapids Metal Plant property is currently on the Part 201 Site List (Site Identification No. 41000115). The Site location is presented on Figure 1.1.

1.1 Scope and Purpose of the NFA Request

RACER is requesting a NFA approval from the Michigan Department of Environmental Quality (MDEQ) related to the former Grand Rapids Metal Plant property located at 300 and 301 36th St SW in Wyoming, Michigan (referred to in the report as the "Site"). This NFA request includes only the Site and not the entire "Facility" (as defined in Section 20101(s) of the Michigan Natural Resources and Environmental Protection Act [NREPA]) as a whole wherein "Facility" refers to any property that has been affected by the Site's historical operations such that groundwater or soil contamination is present in excess of the concentrations that satisfy the cleanup criteria for unrestricted residential use. The current Facility includes properties to the north of the Site due to the presence of a groundwater contaminant plume that has migrated beyond the Site property boundary (as depicted on Figure 1.2):

The purpose of the NFA Report is to describe and document pursuant to Section 20114d of the NREPA, actions that have been performed at the Site to satisfy the requirements of Part 201 of NREPA by meeting "Limited Nonresidential" criteria relative to known historical releases of substances to soil and groundwater at the Site.

The remainder of this NFA Report will describe conditions of soil and groundwater contamination located on-Site. This NFA request is related specifically to the properties located at 300 and 301 36th St SW, Wyoming, Michigan as depicted in Figure 1.3. The NFA Report identifies areas of interest at the entire Facility, but references to off-Site conditions should be considered to be included for information purposes only. A future NFA request will be developed and submitted to address off-Site conditions at the Facility.

1.2 Report Organization

The remainder of this NFA Report is organized as follows:

- Section 2 Site Description and Background
- Section 3 Site Characterization and Criteria Evaluation
- Section 4 Response Activities and Remedial Actions
- Section 5 Post Closure Plan
- Section 6 References

2. Site Description and Background

2.1 Property Location and Setting

The current Site addresses for the former Grand Rapids Metal Plant facility are 300 and 301 36th Street SW in the City of Wyoming, Kent County, Michigan. The Site is currently owned by the City of Wyoming Brownfield Redevelopment Authority (WBRA).

Based on the review of information available at the on-line Kent County Property Information System, the Site is currently comprised of two parcels of land with associated addresses, as follows:

- Parcel Identification No. 41-17-24-201-007 – 300 36th Street SW
- Parcel Identification No. 41-17-13-455-052 – 301 36th Street SW

The property associated with the address of 300 36th Street SW is comprised of 75.00 acres of land and is the main portion of the Site. This portion of the Site was utilized for manufacturing and support operations associated with plant operations; and was the location of the majority of the former Site structures. This portion of the Site is bound to the north by 36th Street SW, to the east by Buchanan Street SW, to the south by 40th Street SW, and to the west by the railroad tracks and is zoned I2, which is Industrial District – General.

The property associated with the address of 301 36th Street SW is comprised of approximately 5.8 acres of land and was primarily utilized as an asphalt-paved employee parking lot with a small structure that is part of the removed groundwater pump and treat system. This portion of the Site is located north of 36th Street SW and is zoned P1, which is Vehicular Parking District.

Easements are reportedly present on the Site, including: sewer and water main easement with the City of Wyoming; utility easements with Consumers Energy Company (Consumers); reservation of easement in the vacated portions of 40th Street SW, Buchanan Avenue SW, and Birchwood Avenue on the Site; and easement for highway purposes with Kent County.

The Site's use has been restricted to Nonresidential use consistent with the Amended and Restated Declaration of Restrictive Covenant (RC) recorded on August 31, 2017 with the Kent County Register of Deeds. The RC includes other restrictions, prohibitions, and provisions. A copy of the RC is presented in Appendix A.

2.2 Current and Historical Ownership and Operations

The Site was developed prior to 1936 for residential and cultivated agricultural uses. In 1936, the portion of the Site bound to the north by 36th Street SW, to the east by Buchanan Avenue SW, to the west by railroad tracks, and to the south by 40th Street SW, was developed by General Motors Corporation (GMC) for an automobile components manufacturing plant. The plant was dedicated on December 5, 1936 as Plant No. 1 of the Grand Rapids Stamping Division of Fisher Body. The original portion of the former Main Manufacturing Building and original Power House were constructed in 1936 and comprised 437,351 square feet of floor space including both production and administrative space. Numerous additions/renovations and demolitions to the structures at the

Site occurred between 1937 and 2006, as detailed in a Current Conditions Report (CCR) prepared for the Site and submitted to the MDEQ in December 2010.

In 1942, the Site produced mounts for 90 mm anti-aircraft weapons, a 120 mm anti-aircraft dual purpose gun, parts and assemblies for the B-29, B-25 and XP-75 aircraft, parts for the M-8, M-24, M-4, M-10, and M-26 tanks, 5-inch naval gun breech housings, 155 mm shells, and machine tools in support of World War II. In 1945, operations returned to automotive parts production.

In 1984, the Fisher Body Division dissolved and the Site became part of the Chevrolet-Pontiac-GM of Canada (CPC) Group. In 1992, during restructuring within GMC, the Site became part of the Cadillac Luxury Car Division (CLCD). In 1997, the Site became part of the Metal Fabricating Division (MFD) of GMC North American Operations (NAO).

The Site was primarily operated as a metal fabrication and assembly plant. The primary manufacturing process involved several operations including tool and die operations, blanking, metal stamping (conventional and transfer presses), and assembly. The manufacturing process and support operations historically included metal stamping, plating operations, painting, acetylene gas generation, scrap metal handling, and heat treating. Ancillary operations conducted at the Site included the receipt and storage of raw materials, hazardous and nonhazardous waste management, equipment maintenance activities, product and materials handling, power generation, the shipment of final goods, wastewater treatment, scrap metal handling, and administrative activities.

Primary operations conducted at the Site by GMC ceased on May 29, 2009. GMC continued to own and conduct limited operations at the Site until June 1, 2009, when they filed for bankruptcy under Chapter 11 of the United States Bankruptcy Code. On July 10, 2009, GMC changed its name to Motors Liquidation Company (MLC), and sold certain assets, to a new entity, which is now known as General Motors LLC (GM LLC). The Site was not included in the sale and ownership remained with MLC. GM LLC leased the Site from MLC beginning on July 10, 2009. From July 10, 2009 to December 17, 2009, GM LLC conducted limited Tool and Die Operations (TDO) on the Site, including the manufacture of tooling and dies for other GM LLC facilities, along with Site idling, decommissioning and support activities. GM LLC ceased operations and vacated the Site on June 30, 2010.

In October 2010, the United States Government announced that MLC had agreed to resolve its liabilities at 89 sites relating to specific environmental liabilities through an environmental response trust fund. An Environmental Response Trust Consent Decree and Settlement Agreement ("Settlement Agreement") was entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of *In re: Motors Liquidation Company*, et al., Debtors, Case No. 09-50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust).

Pursuant to the terms of the settlement agreement, RACER became effective on March 31, 2011 and interests in the 89 sites formerly owned by MLC, including this Site, were transferred to RACER at that time to conduct, manage, and fund cleanup. The Site was transferred to the WBRA on June

28, 2011. RACER retained certain responsibilities related to subsurface contamination associated with historical operations at the Site by GMC.

In 2011, under WBRA ownership of the Site, the Site was decommissioned and all of the structures on the Site (except for the Storm Sewer Pump House, Guard House, and Primary Switch House operated by Consumers) were demolished, with completion of demolition and Site re-grading occurring in Fall 2012. During the demolition of the Site structures, the building floor slabs were removed, and generally any below grade structures (i.e., pits, basements, etc.) were removed to 4-feet below the final design grade. Basement floors in the southern portion of the former plant were cracked and backfilled.

2.3 Regional Environmental Setting

2.3.1 Topography

The State of Michigan covers an area of approximately 58,527 square miles. The State's topography ranges from 572 to 1,979 feet above mean sea level (AMSL). The lowest point of elevation is found in southeastern Michigan along Lake Erie. The highest point is Mount Arvon, located in the Upper Peninsula.

The topography of Kent County, in Western Michigan, is characterized by rolling foothills, agricultural valleys, and the Grand River, which is the largest river in Michigan.

2.3.2 Land Use

Land use in Michigan consists primarily of automobile manufacturing, farming with the primary crops being corn, soybeans, and wheat, timber, and fishing.

2.3.3 Water Supply/Groundwater Use

The Great Lakes are the primary source of public, rural, and industrial water supply in 89 percent of the State of Michigan. The other sources of water supply come from surface water and groundwater. The City of Wyoming provides potable water to the Site and surrounding areas from the City of Wyoming Drinking Water Plant located in Wyoming, Michigan. The water source for the City of Wyoming Drinking Water Plant is Lake Michigan.

2.3.4 Regional Geology

Kent County is situated in an area near the southwestern margin of the Michigan Basin, in the Southern Upland physiographic region. Marshall Sandstone bedrock underlies all of Kent County and is Paleozoic in age from the Mississippian period. The Marshall Sandstone bedrock is overlain by the Michigan Formation. The Michigan Formation consists primarily of limestone, gypsum, and dolomite, interbedded with shale and sandstone. To the northeast, the Marshall Sandstone and Michigan Formation are progressively overlain by Bayport Limestone, Parma Sandstone, and then the Saginaw Formation. Overlying these rocks is a mass of glacial drift from the Wisconsinan Glacial stage consisting of moraines and former sand lake beds with thicknesses of less than 10 feet to several hundred feet. The glacial drift is characterized by ranges of materials from coarse gravel to fine lacustrine clays. The outwash is underlain by a clay layer that has been observed to

generally slope to the west-northwest at a gradient of approximately 1 foot in 15 feet. Bedrock in the area of the Site is encountered at approximately 100 feet below graded surface (ft bgs).

The Jurassic "red beds" form the bedrock surface interface between the glacial sediments in portions of Kent County and range from 50 to 150 feet with localized areas up to 200 feet thick. The "red beds" are often poorly consolidated or unconsolidated and consist primarily of clay, mudstone, siltstone, sandstone, shale, and gypsum. Beneath the Jurassic "red beds" the bedrock generally trends from northeast to southwest progression of the Saginaw Formation, Parma Sandstone/Bayport Limestone, Michigan Formation, and Marshall Sandstone with a general dip to the northeast. The Saginaw Formation consists of shale, coal, sandy shale, sandstone, limestone, and sandstone and ranges from 100 to 240 feet thick. The Parma Sandstone consists of medium grained to coarse grained sandstone, and is generally less than 100 feet thick. The Bayport Limestone consists of a fossiliferous, cherty limestone, often with interbedded sandstone and varies considerably in thickness. The Bayport Limestone and Parma Sandstone appear to interfinger throughout the Michigan Basin (Westjohn and Weaver, 1996a). The Michigan Formation consists of shale and gypsum with lenses of sandstone and limestone. The Marshall Sandstone is composed of stratigraphically continuous permeable sandstones. The upper sandstone is a quartzarenite to sublitharenite. A shale, siltstone, and/or carbonate layer separates the underlying lower sandstone. The lower Marshall sandstone ranges from a 50 to 125 foot fine grained to medium grained quartzarenite to sublitharenite to a 30 to 125 foot fine grained to medium grained litharenite. The Coldwater Shale consists of shale with lenses of sandstone, siltstone, and dolomite.

2.3.5 Regional Hydrogeology

Shallow groundwater in this area of Kent County is generally encountered at less than 20 ft bgs. Groundwater flow is influenced by local topography and surface water drainage ways, such as creeks and streams.

Bedrock aquifers near the Site include, in descending order, the Bayport Limestone, the Michigan Formation, and the Marshall Sandstone. Elevated concentrations of naturally occurring sulfate, cadmium, and bicarbonate limit the use of the Bayport Limestone aquifer as a drinking water supply. The Michigan Formation aquifer generally yields only small quantities of poor quality groundwater. The deepest regional aquifer, the Marshall Sandstone aquifer, provides large quantities of better quality groundwater. Groundwater flow in the Bayport Limestone bedrock aquifer in the area is generally uniform and to the southeast.

2.3.6 Regional Surface Water Hydrology

Michigan has over 36,000 miles of streams and rivers. The Site is located within the Lower Grand River drainage basin and the Plaster Creek watershed. The Lower Grand River drainage basin covers 3,020 square miles and includes the Rogue River, the Flat River, and the Thornapple River, which flow into the Grand River. Other tributaries to the Lower Grand River drainage basin include the Coldwater River, Buck Creek, Hager Creek, Sand Creek, Spring Creek, and Plaster Creek. The Plaster Creek watershed covers 58 square miles. Land use in the watershed consists in general of agricultural and urban use with other areas being forested or open land. Plaster Creek is located approximately 1.25 miles to the north-northeast of the Site. The Cole Drain, located adjacent to the west of the Site, discharges to Plaster Creek.

The Plaster Creek watershed meets the designated use for agriculture, is threatened for partial body contact, and is impaired for a warm water fishery, other indigenous aquatic life and wildlife, and total body contact recreation. The known stressors include sedimentation, nutrient loading, and Escherichia coli (E. coli) bacteria. The suspected stressors include thermal pollution and toxic substances.

2.3.7 Regional Ecological Setting

The Plaster Creek watershed is located in the ecoregion identified as the Eastern Temperate Forest. This is a very large ecoregion, extending from the Great Lakes to the Gulf of Mexico, and west to Texas, Oklahoma, Missouri, Minnesota, and Iowa. The region is characterized by dense and diverse forest cover. The area is also densely urbanized. Within this ecoregion are smaller regions including the Mixedwood Plains Level 2 ecoregion, in which the Site is located. According to the United States Geological Survey (USGS), the Site is located within the Regional Landscape Sub-subsection (VI.4.1 Lansing).

Based on 1992 USGS land use and land cover data, high and low intensity development (38 percent) and agricultural use (38 percent) make up the largest percentage of land use within the Plaster Creek watershed. Other land use/land cover within the Plaster Creek watershed includes forest land (16 percent), open land (5 percent), wetland (2 percent), and water (1 percent).

2.3.8 Regional Plant Life

The Level 2 ecoregion (Mixedwood Plains) in which the Site is located is characterized by dense canopy cover consisting of tall broadleaf deciduous trees and needle leaf conifers. Common trees to the region are oaks, hickories, maples, beech and some pine and basswood. In addition, the Regional Landscape Sub-subsection (VI.4.1 Lansing) is characterized by beech and sugar maple forests and hardwood swamps.

2.3.9 Regional Animal Life

Common animals that may be found in the region in which the Site is located include gray squirrel, raccoon, fox, and white tailed deer.

2.4 Site Setting

2.4.1 Site Land Use

The Site is zoned as Industrial District, General (I-2), and Vehicular Parking District (P-1) on the City of Wyoming, Michigan May 2014 Zoning Map, and was formerly operated as an automobile metal fabrication and assembly plant and associated parking areas. Currently, no manufacturing operations are conducted at the Site and the property is primarily vacant land. The Site currently consists of approximately 79.8 acres of land containing the Storm Sewer Pump House, the former Guard House, a primary Switchhouse operated by Consumers, asphalt and concrete-paved areas, and gravel covered, vegetated and landscaped areas.

2.4.2 Surrounding Land Use

The Site is located in a mixed industrial, commercial, residential and recreational area in the City of Wyoming, Michigan with Buchanan Ave SW and mixed industrial/residential properties to the east, mixed recreational and residential properties to the north, railroad tracks and mixed commercial/industrial properties to the west, and 40th Street SW and mixed residential and commercial/industrial properties to the south, as further discussed below.

2.4.3 Adjacent Properties

The Site is abutted to the north by Shoemaker Properties, LLC, Rivertown Community Federal Credit Union, Godwin Heights Public Schools athletic fields and residential properties, with Hillcroft Park located beyond.

The Site is abutted to the east by Buchanan Street followed by a CITGO gas station, Tint Factory, J&B Auto Repair, Floor Care Concepts, Inc., Enviro Pure, Allied Building Products Co., Canales, Inc., MSC Industrial Supply Co., Chase Creative Unlimited, Ter Molen & Hart Sheet Metal, Tracer Tool & Die Co., Gazic Trucking Inc. (former UAW), Conical Tapered Mills, a vacant commercial/industrial building, a vacant lot, Mark Maker Company, and residential properties.

The Site is abutted to the south by 40th Street followed by Accurate Alignment & Brake, Zinger Sheet Metal and residential properties.

The Site is abutted to the west by railroad tracks, Cole Drain, Consumers high-tension power lines, Consumers Service Center, The Macomb Group, J. O. Galloup (Kendall Electric, Inc. property), and Clay Avenue followed by Ryder Truck, Cummins, S4GR, LLC, K-Mac Plastics, Floyd's Electric, Consolidated Metal Products, Inc., Rose Pest Solutions, Donald Engineering, and a vacant commercial building.

2.4.4 Site Topography

According to the Grand Rapids West, Michigan USGS 7.5 minute quadrangle, the Site is located approximately 675 feet AMSL, with regional elevations ranging from 650 to 690 feet AMSL. The Site and surrounding area display gently rolling to relatively flat topographical features, with local topography sloping towards Cole Drain and Plaster Creek. Figure 1.1 presents the topography of the Site and surrounding area.

2.4.5 Site Geology

Information regarding the geologic conditions at the Site was collected during previous environmental investigations. Numerous soil borings were installed at the Site between 1981 and 2014.

The overburden at the Site generally consists of a sand and/or clay surficial layer containing various amounts of sand and gravel, with limited occurrences of peat and marl, underlain by interbedded layers of silt and clay material. During demolition and remedial excavation activities conducted between 2012 and 2015, fill material consisting of slag, cinders, fly ash, demolition debris, metalworking debris, and other miscellaneous refuse was observed at multiple locations across the

Site. Bedrock was not encountered during any of the environmental investigations conducted to date.

2.4.6 Site Hydrogeology

Groundwater at the Site is typically observed between 12 ft bgs and 22 ft bgs, but is known to exhibit seasonal fluctuations of up to a foot. Recent groundwater elevations recorded from February 2011 through April 2017 are summarized in Table 2.1. Groundwater contours from the April 2017 groundwater sampling event are provided on Figure 2.1. The potentiometric surface presented on Figure 2.1 indicates that Site groundwater flows to the north-northwest, towards the off-Site Cole Drain. This is consistent with groundwater elevations and flow identified during previous investigations and monitoring events conducted at the Site between 1985 and 2011. Historical groundwater elevations and groundwater contours were submitted to the MDEQ during the on-going investigations and monitoring conducted during the aforementioned timeframe.

In-situ tests were conducted at select wells 85-1, 85-7 (which was replaced by MW60-14 in 2014), 86-2 (which was replaced by MW35-12 in 2012), 86-3, 87-8, and 87-9 to determine the hydraulic conductivity of the upper groundwater unit during subsurface investigations conducted between 1986 and 1987. Based on the results of the in situ testing at these locations, the hydraulic conductivity ranged from 17.1 feet/day (85-1) to 192.6 feet/day (86-3), with an average hydraulic conductivity for 86-3, 87-8, and 87-9 of 149 feet/day. Based on the aforementioned average hydraulic conductivity and using a hydraulic gradient of 7.2 feet/mile and estimated porosity of 25 percent, the estimated groundwater velocity was calculated in 1987 to be 0.8 feet/day.

2.4.7 Site Surface Water Hydrology

Stormwater generated at the Site consists of precipitation and runoff from pervious and impervious surfaces. Stormwater generated at the Site either infiltrates the undeveloped, pervious portions of the property or flows via sheet flow to on-Site catch basins, which discharge to a stormwater retention pond present on the Consumers' right-of-way property to the west of the Site and eventually to Cole Drain, directly to Cole Drain at the northwestern corner of the Site, or to the City of Wyoming municipal storm sewer system.

There are no natural surface water bodies on the Site. The nearest natural surface water body to the Site is the Cole Drain, which runs as an open drainage ditch adjacent to and along the west side of the northern portion of the Site and flows north. Cole Drain is an enclosed drain upstream of the off-Site stormwater retention pond. Cole Drain discharges to Plaster Creek, which is part of the Lower Grand River drainage basin, and ultimately discharges to Lake Michigan. There are no lakes or significant ponds within one-mile of the Site. A constructed stormwater retention pond connected to the Site storm sewer system is located on property owned by Consumers adjoining the Site to the west across the railroad tracks.

GHD reviewed the National Wetlands Inventory (NWI) map for the Grand Rapids West, Michigan quadrangle to determine if any wetlands were mapped at the Site. Based on review of the NWI map, the stormwater retention pond is mapped as a Palustrine Unconsolidated Bottom Excavated (PUBx) wetland.

2.4.8 Site Groundwater Use

The Site is currently not provided with potable water due to the inactive status of the property; however, connections to the City of Wyoming municipal water supply system are available along 36th Street and Buchanan Avenue. The City of Wyoming Drinking Water Plant located in Wyoming, Michigan is the source of potable water to the Site. The water source for the City of Wyoming Drinking Water Plant is Lake Michigan. The shallow groundwater at the Site is not currently used as a potable water supply. As identified in Section 2.1, the use of groundwater at the Site is currently prohibited, except for short-term dewatering for construction purposes, as detailed in the current RC for the Site. There are no known users of the shallow groundwater in the vicinity of the Site.

No evidence of any water supply or irrigation wells has been observed by GHD. Numerous monitoring wells, which were installed during ongoing and historical subsurface investigations, are present at the Site.

Based on the review of available Site drawings and Sanborn maps, Deep Well No. 6 and an associated pump house were historically located to the west of the Main Manufacturing Building, near Column ZZ, Row 8 ½, with the well located at Row 7. The well and pump house were removed prior to 1971. No information was available regarding the abandonment procedures employed for the well. No information was available regarding potential wells associated with the former residential properties.

A groundwater pump and treat system was historically located in the central portion of the Main Manufacturing Building near MW35-12 (formerly 86-2) and along the northern property boundary near PW-Discharge (PW-DISCH). The on-Site groundwater pump and treat system operations were initiated in 1986, with PW-DISCH added in 1993. In May 2005, under the approval of the MDEQ, the groundwater pump and treat system was shut down. The majority of the groundwater pump and treat system was decommissioned, dismantled, and removed during demolition of the former Main Manufacturing Building between 2011 and 2012. Monitoring well 86-2 was destroyed in 2012 during the demolition of the former Main Manufacturing Building and replaced by MW35-12. PW-DISCH and the small structure for PW-DISCH remain present on the northern portion of the Site.

Groundwater was historically collected from foundation drainage near the former CX conveyor area and foundation drainage from PP1 area (located near the southeast corner of the former Main Manufacturing Building) and discharged to the off-Site stormwater retention pond, prior to discharge to the Cole Drain. The foundation drainage system was present along the eastern and southern portions of the former Main Manufacturing Building, within the basement areas of the former structure.

2.4.9 Ecology

The Site is located in an urbanized and developed portion of the City of Wyoming that has been developed for approximately 75 years. The Site is located in the Mixedwood Plains Level 2 ecoregion, which is characterized by mainly plains, some hills, and many small lakes.

Based on a threatened/endangered species review request response from the Michigan Department of Natural Resources and Environment (MDNRE)(currently MDEQ) dated March 11, 2010, "there are no known occurrences of federal- or state listed endangered, threatened, or

otherwise significant species, natural plant communities, or natural features at the locations(s) specified."

3. Site Characterization and Criteria Evaluation

3.1 Summary of Previous Environmental Investigations

A CCR was prepared for the former Grand Rapids Metal Plant in December 2010 and submitted to the MDEQ on December 23, 2010, which provides additional details regarding the historical operations and environmental investigations associated with the Site and adjacent properties. Thirty-eight Areas of Interest (AOIs) were identified in the CCR at the Site based on a review of available files, interviews with Site personnel, historical investigations and environmental activities, and Site inspections conducted during development of the CCR. Site inspections conducted in support of the CCR were completed between the fall of 2009 and spring of 2010. AOIs were defined as those areas of known treatment, storage, disposal, or release of nonhazardous and/or hazardous constituents to the environment or potential release of nonhazardous and/or hazardous constituents to the environment. The CCR provided the basis for determining whether or not further investigation was warranted at each AOI and the associated recommendation to MDEQ. Based on the CCR, 38 specific AOIs were identified for further evaluation or investigation. The AOIs identified for the Site are further evaluated in Sections 3.4 through 3.41. Table 3.1 also includes a summary of each AOI and the evaluations completed to address potential issues identified initially in the CCR and subsequently in additional field investigations and observations conducted during Site demolition and re-grading activities.

As identified in the CCR, numerous environmental investigations were conducted at the Site between 1981 and 2010. A summary of each investigation conducted between 1981 and 2010 is included in the CCR. Additional investigations and monitoring were conducted on behalf of RACER between 2011 and 2017. The environmental investigation and monitoring reports prepared for the Site during that timeframe are listed below.

includes references to the respective work plans related to each investigation report, in addition to the submittal and approval dates related to each proposed investigation.

- Data Package – 2011 Site-Wide Investigation prepared by CRA and dated June 7, 2011
- Data Package – 2011 Site-Wide Investigation – Stage II prepared by CRA and dated July 24, 2012
- Soil Containing PCB Cleanup Completion Summary Report prepared by CRA and dated May 16, 2013
- Summary of Sampling and Remedial Action Activities – 2011 and 2012 prepared by CRA and dated July 16, 2013
- Data Package – 2012 Site-Wide Investigation – Stage III prepared by CRA and dated March 11, 2013
- Data Package – 2013 Site-Wide Investigation – Stage IV prepared by CRA and dated August 6, 2013

- Closure Report – Underground Storage Tank No. 6 prepared by CRA and dated September 17, 2012
- Data Package – 2013 Site-Wide Investigation – Stage V prepared by CRA and dated November 12, 2013
- Data Package – 2013 Site-Wide Investigation – Stage VI and Fall 2013 Semi-Annual Groundwater Monitoring Report prepared by CRA and dated February 25, 2014
- Data Package – 2014 Bulk Unload Area Off-Site Investigation and Spring 2014 Semi-Annual Groundwater Monitoring Report prepared by CRA and dated August 4, 2014
- Summary of Activities – Well Abandonment/Installation and Groundwater Sampling prepared by CRA and dated September 10, 2014
- Draft – Summary of Findings – 2014 Bulk Unload Area Off-Site Investigation prepared by CRA and dated December 1, 2014
- Fall 2014 Semi-Annual Groundwater Monitoring Report prepared by CRA and dated December 14, 2014
- AOI 25 – Former Degreaser Area Investigation prepared by CRA and dated February 27, 2015
- Spring 2015 Semi-Annual Groundwater Monitoring Report prepared by CRA dated June 9, 2015
- Soil Containing PCB Cleanup Completion Summary Report prepared by GHD dated November 13, 2015
- Fall 2015 Semi-Annual Groundwater Monitoring Report prepared by GHD dated February 8, 2016.
- Spring 2016 Semi-Annual Groundwater Monitoring Report prepared by GHD dated July 12, 2016
- Fall 2016 Semi-Annual Groundwater Monitoring Report prepared by GHD dated March 30, 2017
- Spring 2017 Semi-Annual Monitoring report prepared by GHD dated August 11, 2017

Subsequent to the aforementioned investigations and Site demolition activities, two additional AOIs were identified as summarized below and further evaluated in Sections 3.42 and 3.43.

AOI 39 PCB Areas

AOI 39.1 PCB Area No. 1

AOI 39.2 PCB Area No. 2

AOI 40 On-Site Fill Area (Zc-5.5 Area)

Figure 3.1 presents the locations of the AOIs. Copies of the CCR and above listed documents were previously submitted to MDEQ and/or U.S. EPA.

3.2 Data Comparison to Michigan Act 451, Part 201 Criteria

Analytical results for the soil and groundwater samples from subsurface investigations were evaluated against the following Residential and Nonresidential Cleanup Criteria Requirements for Response Activity (Part 201 Criteria) established in Administrative Rules R299.1 to R299.50, effective December 30, 2013, pursuant to Part 201, Environmental Remediation, 1994 PA 451 as amended (Part 201):

Soil:

- Drinking Water Protection Criteria (DWPC)
- Groundwater Surface Water Interface Protection Criteria (GSIPC)
- Soil Volatilization to Indoor Air Inhalation Criteria (SVIAC)
- Volatile Soil Inhalation Criteria (VSIC)
- Particulate Soil Inhalation Criteria (PSIC)
- Direct Contact Criteria (DCC)
- Soil Saturation Concentration Screening Levels (C_{sat})

Groundwater:

- Drinking Water Criteria (DWC) – including health based drinking water criteria
- Groundwater Surface water Interface Criteria (GSIC)
- Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAC)
- Flammability and Explosivity Screening Levels (FESLs)
- Water Solubility Limits

The Site-specific GSIPC and GSIC were calculated based on a receiving water body hardness of 344 milligrams per liter (mg/L). This Site-specific hardness level was determined based on the results from a surface water sample collected from Cole Drain.

Table 3.2 presents vertical aquifer sample (VAS) results compared to Part 201 Criteria. Table 3.3 presents surface water sample results. Table 3.4 presents groundwater results from 2011 (during the decommissioning of the Site structures and removal of the building slabs) to present compared to Part 201 Criteria. Table 3.5 presents the Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria. Tables 3.8.1 through 3.44 present soil sample results by AOI compared to Part 201 Criteria.

In addition to the Part 201 Criteria, soil sample analytical results for PCBs were compared to the TSCA High Occupancy Area Cleanup Level of 1 ppm/1 mg/kg total PCBs for bulk remediation waste (without further conditions) set forth in 40 CFR 761.61(a). Due to the unknown source or release date associated with PCBs discovered in soil on-Site, investigation and remediation of PCBs in soil on-Site was conducted under the requirements of TSCA and under the approval of the U.S. EPA. Soil sample exceedances of the TSCA criteria and remedial actions associated with PCB soil contamination are discussed in detail in Sections 3.28, 3.31, and 3.43.

A detailed evaluation and conclusions relative to on-Site conditions are presented on a pathway by pathway basis in the following sections.

3.3 Exposure Pathways

This section presents an evaluation of the risks associated with substances detected in Site media and in groundwater on-Site, including the on-Site migration of impacted groundwater. The evaluation of risk was completed to identify those substances, affected media, and locations of the area, if any, which would require remedial action to mitigate risks to levels consistent with current and foreseeable future land uses of the Site and protection standards specified under Part 201.

MDEQ has identified various "pathways" or "conditions to evaluate" in assessing compliance with Part 201 Criteria. The following sections demonstrate to what extent specific pathways (or conditions) at the Site are relevant and applicable; and, therefore may need to be further addressed by remedial actions.

As discussed above, the Site was restricted to Nonresidential use consistent with the RC executed on August 7, 2017 and recorded with the Kent County Register of Deeds. Therefore, comparison to the Part 201 Nonresidential Criteria is an appropriate benchmark for determining if further remedial actions are required on-Site and the discussions in Section 3.3.1 through 3.3.13 reflect this comparison.

3.3.1 Source Control and Existing Exceedances

No ongoing sources of hazardous substance releases are known to be present on Site. In light of information identified during the CCR and subsequent subsurface investigation, it is unlikely that significant exceedances of criteria exist on Site other than that identified and summarized herein.

Two potential off-Site sources of groundwater contamination unrelated to historical Site operations have been identified and evaluated during the subsurface investigations conducted associated with the Site relative to groundwater.

One area is located to the east of and upgradient in the direction of groundwater flow from the Site, along Buchanan Avenue. Chlorinated volatile organic compounds (cVOCs) were identified in soil and groundwater on the Conical Tapered Mills property, with concentrations of cVOCs present in a monitoring well on the east side of Buchanan Avenue higher than monitoring wells screened at a similar interval on the west side of Buchanan Avenue, with vertical profiling results indicating higher concentrations to the east of the Site as well. Additional details regarding the adjoining and surrounding properties to the east of the Site are discussed in Section 3.4.

A second area is located to the west of Cole Drain, north of 36th Street. The area to the northwest of the Site has been developed for industrial use since at least 1960 based on the review of historical aerial photographs. This area is located downgradient of the Site based on groundwater flow to the north-northwest. Chlorinated VOCs, tetrachloroethene (PCE) in particular, have been identified in groundwater samples collected from a monitoring well on the west side of the drain at concentrations ranging from 17 ug/L to 160 ug/L and PCE has not been detected in monitoring wells on the east side of the drain screened at a similar depth. Additional details regarding the adjoining and surrounding properties to the west of the Site are discussed in Sections 3.6 and 3.7.

For the purposes of the exposure pathway evaluations presented in Sections 3.3.2 through 3.3.13, impacts in these areas were considered off-Site sources and not part of the Site's groundwater impacts requiring further consideration.

3.3.2 Groundwater Risks to Drinking Water Uses

Groundwater is present at the Site at depths ranging between 12 and 22 ft bgs. Considering this and the fact that several constituents have been found to exceed Nonresidential DWC in groundwater, risks to drinking water use to substances in groundwater is a relevant potential exposure pathway.

No potable water wells are present on the Site currently and none are anticipated to be constructed at the Site that would utilize the groundwater, potable water in the vicinity of the Site is supplied by the City of Wyoming, and a RC is currently in place at the Site that prohibits the use of groundwater at, in, or under the Property as described above. As such, this exposure pathway does not require additional remedial action.

3.3.3 Groundwater Risks for Indoor Air Hazards

Constituents in groundwater have the potential to migrate to indoor air through volatilization through building floors. Indoor air inhalation of volatile constituents from groundwater is a relevant potential exposure pathway considering that there are structures on the Site.

However, based on groundwater sampling conducted to date, there are no known Nonresidential GVIAC exceedances on-Site and the current RC requires evaluation and/or mitigation of any potential vapor intrusion for any new building construction. Accordingly, there is no remedial action required for this exposure pathway on-Site.

3.3.4 Groundwater Risk of Hazard to Surface Water Resources

No surface water features exist on the Site. Cole Drain is present to the west and northwest of the Site as an open drainage way. Due to the down-gradient location of Cole Drain, the potential for groundwater to impact surface water resources is a relevant potential exposure pathway.

Groundwater monitoring and investigation activities have been conducted at the Facility since 1985. Groundwater monitoring events are currently conducted on a semi-annual basis. The monitoring wells nearest the western Site boundary serve as monitoring points for compliance with the GSI. In June 2014, one monitoring wells (85-7) on the Site was abandoned in accordance with State of Michigan requirements and a new monitoring well (MW60-14) was installed adjoining the abandoned location. Analytical results for 85-7 historically exhibited concentrations of elevated metals (i.e., zinc, copper, etc.) above the GSIC. The detected concentrations of metals could potentially be attributed to the construction material of the well, which consisted of a galvanized steel well casing and steel screen, as opposed to contamination resulting from historical operations at the Site. Monitoring results subsequent to the replacement of these well has not indicated any exceedances of the GSIC in downgradient monitoring wells serving as points of compliance.

3.3.5 Soil Risks from Direct Contact Exposures

Direct contact is a relevant potential exposure pathway due to the possibility for contact by construction/utility workers performing subsurface activities or in the event subsurface materials become exposed.

Excavation activities conducted to date have removed all but two sample locations with exceedances of Nonresidential DCC. The two soil sample locations (SB195-12 and SB297-13) that contain remaining Nonresidential DCC exceedances have been identified in the RC and are located at depths where the potential for contact is limited. Therefore, no additional remedial action is required for this exposure pathway.

3.3.6 Soil Risks from Ambient Air Inhalation Exposures

Substances in soil have the potential to volatilize to ambient air and also to migrate through particulate emissions (i.e., fugitive dust) at the Site. Therefore, these pathways are relevant potential exposure pathways.

Excavation activities to date have removed all by one sample location with exceedance of the Nonresidential VSIC. The soil sample analytical result from the 0 to 2-foot sample interval of SB08-05 is above the Nonresidential Infinite Source VSIC and the 5-meter Source VSIC for TCE; however, the soil sample from the 2 to 4-foot interval was below both criteria. Given this, the thickness of the “source” is a maximum of two feet or 0.6 meters. Given the thickness, the two criteria that are exceeded are not applicable. The Nonresidential Infinite Source VSIC does not apply because the vertical extent of contamination in this location has been vertically and horizontally delineated (i.e., samples were collected in 2-foot intervals in this area as part of an evaluation of residual TCE concentrations). Therefore, the concentration of TCE in the 0 to 2-foot sample interval of SB08-05 does not pose a significant risk.

Excavation activities conducted to date have removed all but one sample location with exceedance of Nonresidential PSIC. The soil sample location (SB297-13) that contains the remaining Nonresidential PSIC exceedance has been identified in the RC and is located at a depth where the potential for exposure is limited. Therefore, no additional remedial action is required for this exposure pathway.

3.3.7 Soil Risks from Indoor Air Inhalation Exposures

Constituents in soil have the potential to migrate to indoor air through volatilization through building floors. Indoor air inhalation of volatile constituents from soil is a relevant potential exposure pathway considering that there are structures on the Site.

Investigation activities conducted to date have identified several soil sample locations that exceed the Nonresidential SVIAC. However, these soil sample locations are not located near the existing structures on the Site. Soil samples collected near the existing structures did not exhibit concentrations of contaminants exceeding the Nonresidential SVIAC.

A RC is currently in place at the Site that requires evaluation and/or mitigation of potential indoor air inhalation exposures from hazardous substances prior to occupying existing structures or

construction of new structures on the Site. Therefore, no additional remedial action is required for this exposure pathway.

3.3.8 Soil Risk to Drinking Water Uses of Groundwater

Groundwater is present at the Site at a depth of approximately 12 to 22 feet bgs. Exceedances of soil criteria for the protection of groundwater as a drinking water source create the potential for unacceptable exposure if Site groundwater is used as a drinking water source; and, therefore is a relevant potential exposure pathway.

However, no potable water wells are present on the Site currently and none are anticipated to be constructed at the Site that would utilize the shallow groundwater, potable water in the vicinity of the Site is supplied by the City of Wyoming, and a RC is currently in place at the Site that prohibits the use of groundwater at, in, or under the Property as described above.

3.3.9 Soil Risk for Groundwater to Pose Hazard to Surface Water

As discussed above, no surface water features are present on the Site. The Cole Drain is present to the west and northwest of the Site as an open drainage way. Due to the down-gradient location of Cole Drain, the potential for soil risks to groundwater to impact surface water resources is a relevant potential exposure pathway.

GSIPC exceedances are present in soil on-Site; however, no GSIC exceedances have been identified in monitoring wells identified as point of compliance wells for GSIC. The monitoring wells nearest the western Site boundary serve as monitoring points for compliance with the GSI. As discussed above, monitoring results subsequent to the replacement of a galvanized monitoring well does not indicate any exceedances of the GSIC in downgradient monitoring wells serving as points of compliance.

3.3.10 Risk of Soils Runoff to Surface Waters

As discussed in Section 2.4.7, no surface water features are present on the Site.

Following demolition activities in 2012, the portions of the Site where impervious surfaces were removed was re-graded (primarily within the former Main Manufacturing Building footprint). The final grading of the Site was designed such that precipitation that falls on the now pervious surfaces of the Site is directed away from impervious surfaces and into several retention areas constructed in the footprint of the former Main Manufacturing Building. Slightly elevated overflow inlets were installed in some of the retention areas and connected to the on-Site storm sewers. The overflow inlets are situated several feet above the floor of the retention areas so storm water must rise to that level before it enters the storm sewer system.

The impervious areas surrounding the former footprint of the Main Manufacturing Building direct surface storm water via sheet flow to the on-Site catch basins that are connected to the nearby municipal storm sewer; however, there is limited potential for soil to runoff and collect in these catch basins due to the final Site grading and retention basin/overflow inlet design discussed above. Based on current Site conditions, risk of soil runoff conveying substances to surface waters is not a concern. Therefore, no additional remedial action is required for this exposure pathway.

3.3.11 Acute Toxic and Physical Hazard Risks

To evaluate potential acute toxicity and physical hazards of substances in soils, consideration is given to any parameters that are present at concentrations approaching or over the soil saturation (C_{sat}) or Water Solubility Limits. Exceedance of C_{sat} or the Water Solubility Limits suggests the potential presence of non-aqueous phase liquid (NAPL). Further evaluation to confirm or deny the presence of NAPL at the exceedance locations would be required.

Additionally, Flammability and Explosivity Screening Levels (FESLs) are available to screen parameters in groundwater as potential toxicity or physical hazards.

Based on investigations conducted to date, no known exceedances of C_{sat} or FESLs exist on Site. An isolated grab groundwater sample collected during the 2012 Site-wide Investigation from SB214-12 exhibited concentrations of several PAHs that exceeded the Water Solubility Limits; however, a permanent monitoring well installed in this location (MW57-13) did not identify the presence of any LNAPL.

Historically, LNAPL was observed in monitoring wells near former Column A-15 of the plant. Additionally, during Site demolition activities in 2012, LNAPL consisting of a sheen was observed on groundwater that infiltrated the basement excavation in this area. The LNAPL is discussed further in Section 3.10. No measurable LNAPL has been identified at the Site since 2007.

Based on review of representative current Site data, acute toxic and physical hazard risks are not believed to be a concern on-Site. Therefore, no additional remedial action is required for this exposure pathway.

3.3.12 Potential Fire or Explosion Hazards

As identified in Section 3.3.11, no acute toxic or physical hazards are currently known to exist on Site in soils or groundwater. Based on review of representative current Site data, no known potential fire or explosion hazards exist related to historic releases. Therefore, no additional remedial action is required for this exposure pathway.

3.3.13 Other Hazardous Substance Risks at or Posed by the Site

Site investigation activities have not identified any other hazardous substance risks at or posed by the Site related to releases.

3.3.14 Aesthetic Impacts

During investigations, observations conducted during demolition, and remedial actions, several areas on-Site were observed to contain soil or groundwater exhibiting aesthetic impairments. Soil and groundwater samples were collected from several types of each of the following materials; however, the analytical results did not indicate exceedances of the applicable Part 201 Criteria (as discussed in Section 3.4 below). The presence of the known aesthetic impacts includes:

- Soil and groundwater exhibiting petroleum or solvent-type odors
- Groundwater sample metals concentrations that exceed the aesthetic DWC values, but not the health-based DWC values

- Groundwater containing oil globules and/or surface sheen that were observed in former basement sumps and on the surface of groundwater that infiltrated excavations in the former basement during demolition activities conducted in 2012
- Fill soil and materials that exhibit staining, discoloration, or oil sheen
- Fill materials that include demolition debris (bricks, concrete, metal, glass and lumber), miscellaneous refuse (light bulbs, spent grinding wheels, plastic and glass containers, metal container debris), slag, cinders, fly ash, cooling pond sludge, metal grinding swarf (compressed metal fines and/or turnings), and railroad ties.

3.4 Evaluation of Applicable Criteria for Comparison

Based on the evaluation of the exposure pathways presented in Section 3.3 utilized in conjunction with the existing RC, soil sample results on-Site for additional delineation and/or subsequent excavation during the 2011 to 2014 investigation activities and subsequent interim remedial activities were compared to the following Part 201 Criteria:

- Nonresidential PSIC
- Nonresidential DCC

Based on the evaluation of the exposure pathways presented in Section 3.3 utilized in conjunction with the existing RC, groundwater sample results on-Site were compared to the Nonresidential DWC. On-Site groundwater sample results were compared to GSIC, if the well location was near Cole Drain.

The following sections present the environmental issues, investigations conducted, and evaluation of the data corresponding with each of the 40 AOIs identified during previous assessments based on the applicable criteria comparison discussed above.

3.5 AOI 1: Adjacent Properties – East of Buchanan Avenue SW

3.5.1 Historical Operations

Based on the review of historical information, the adjacent properties to the east of the Site, across Buchanan Avenue SW, have been operated as commercial/industrial properties since at least 1950, with a gas station operating on the properties associated with 3565 and/or 3636 Buchanan Avenue SW from between at least 1938 to 1975. Additional historical commercial/industrial occupation of properties noted on Sanborn maps and in city directories includes: a gas station at the intersection of 36th Street SW and Buchanan Avenue SW since at least 1966; a buried gas tank on the property located at 3700 Buchanan Avenue SW; a paint shop at 3818 Buchanan Avenue SW; auto repair facilities at 3826 Buchanan Avenue SW; heat treat operations at 3832 Buchanan Avenue SW; and a machine shop at 3890 Buchanan Avenue SW. In addition, the properties located adjacent to the east of the Site across Buchanan Avenue SW at 3890 Buchanan Avenue SW (Conical Tool Company), 3832 Buchanan Avenue SW (entity not listed), and 3840 Buchanan Avenue SW (Commercial Heat Treating Company) are listed in the Baseline Environmental Assessment (BEA) Database indicating exceedances of Part 201 Residential Criteria are present on those properties.

Additionally, the property located at 3887 South Division Avenue SW (entity not listed) is a Part 201 site. This property is approximately a half-mile southeast of the Site. Information in the environmental database search performed as part of the CCR indicated that the property had an "Inactive – no actions taken to address contamination" status and that the pollutant was tetrachloroethene (PCE). This address was also listed in the Conditionally Exempt Small Quantity Generator (CESQG) database as Mr. Easy Cleaners with no violations identified. Based on current observations, this address is occupied by Wash World, which is identified as a dry cleaner.

3.5.2 Previous Investigations and Remedial Actions

Freedom of Information Act (FOIA) reviews were previously conducted for the adjacent Conical Tapered Mills (formerly Conical Tool) property, located adjoining to the southeast of the Site. Chlorinated VOCs, including trichloroethene (TCE) and PCE, were identified on that property, which appear to be migrating onto the Site. A FOIA review was conducted in April 2003, to identify any potential upgradient sources of contamination along Buchanan Street, which may be migrating onto the Site. Based on the review of available information obtained from the FOIA request, the Conical Tapered Mills property, located hydraulically upgradient from the Site, was identified as a potential source of TCE and PCE. TCE was identified in soil and groundwater on the Conical Tapered Mills property at concentrations above the Part 201 Residential Criteria. PCE was also detected in groundwater above the Part 201 Residential Criteria at the Conical Tapered Mills property. However, it was not clear from the information reviewed whether all soil samples were analyzed for PCE. Insufficient information from the MDEQ files was present to determine a possible source location for PCE at the Conical Tapered Mills property. Additionally, the vertical extents of TCE and PCE in groundwater were not determined on the property, based on the information reviewed. Based on environmental investigation reports reviewed, excavation was conducted in two areas at the Conical Tapered Mills site. Neither of these excavations was conducted where the TCE was detected in soil above the Part 201 Residential Criteria.

Conical Tapered Mills is upgradient to the southeastern portion of the Site, where PCE and TCE were historically identified in groundwater on-Site above the Part 201 Nonresidential DWC and/or GSIC. In addition to the Conical Tapered Mills property, as described above, a property approximately a half-mile southeast of the Site that is currently operated as a dry cleaner was identified as a Part 201 site with PCE impacts.

In 2003, CRA conducted vertical aquifer sampling (VAS) on the Site along the eastern property line and near the southeastern corner of the former Main Manufacturing Building. Monitoring wells were installed in the locations of the VAS at the intervals exhibiting the highest concentrations of PCE. Based on the results of the VAS, PCE was identified at depths below the groundwater table migrating onto the Site, which was considered consistent with concentrations that would be present downgradient of a source area/release. A summary of the investigation and monitoring activities conducted in this area through 2010 is presented in the CCR.

The time of release, specific up-gradient/source area concentrations, and fate of PCE migrating on to the Site had not been identified. The screened interval for MW1-03, which is located directly adjacent to the Site on the west side of Buchanan Avenue, is from 30 to 35 feet bgs. Based on the review of analytical results obtained during the 2003 investigation conducted by CRA and summarized in a Data Report submitted to the MDEQ on March 2, 2004, vertical profiling results at

the water table indicated the detected concentration of PCE in a groundwater sample collected at 24 feet bgs during the VAS in this area was below the Part 201 GSIC. This was noted as important because at that location and depth, and at that concentration, it was unlikely that PCE was being collected by the Site's foundation drain system, which was present at approximately 20 feet bgs and served to collect groundwater in the areas surrounding the eastern (along Buchanan Avenue) and southern Main Manufacturing Building basement foundation perimeter. Groundwater was collected in the drain system and discharged to the retention pond located on the off-Site Consumers' Energy property, which in turn discharged to the Cole Drain, pursuant to a National Pollutant Discharge Elimination System (NPDES) permit.

During the 2013 Site-Wide Investigation to further evaluate the potential off-Site source, additional vertical profiling (VAS49-13) was conducted immediately adjacent to the northwestern corner of the Conical Tapered Mills property, within the City of Wyoming right-of-way on the east side of Buchanan Avenue upgradient of the Site. PCE was detected in groundwater samples collected from VAS49-13 at 16, 26, 36, and 39 ft bgs at concentrations exceeding Part 201 Residential and Nonresidential DWC and the GSIC. A confining clay layer was encountered at the boring terminus at approximately 39.5 ft bgs. Based on the vertical profiling results, a monitoring well (MW49-13) was installed in this location and screened from 34 to 39 ft bgs. Monitoring results to date indicate that higher concentrations of PCE and TCE are present in groundwater samples collected from MW49-13 across/east of Buchanan Avenue directly adjacent to the Site, than from MW1-03 across/west of Buchanan Avenue.

Based on the sample results from MW49-13 that confirmed the presence of an off-Site cVOC groundwater plume migrating onto the Site from the southeast, groundwater samples were collected from monitoring well MW49-13 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

A summary of groundwater, temporary well and VAS samples compared to Part 201 Criteria are presented in the environmental investigations listed in Section 3.1.

3.5.3 Current Status and Conclusions

The results of monitoring well and vertical aquifer sampling indicate the presence of a groundwater plume containing PCE at concentrations above the Part 201 Residential and Nonresidential DWC and the GSIC that has migrated from the southeast Site boundary to the northeast portion and approximate center of the Site, contributing additional cVOCs to the existing Site plume (discussed further under AOI 25). Further evaluation by RACER of the upgradient plume currently migrating onto the Site is not required.

3.6 AOI 2: Adjacent Properties – Along Clay Avenue SW

3.6.1 Historical Operations

Based on the review of the environmental database search results in the CCR, the Ryder Truck property located at 3663 Clay Avenue SW was listed in the MDEQ Leaking Underground Storage Tank (LUST) Database as having an open status. Additionally, the property located at 3940 Clay Avenue SW (entity not listed), to the south of the Clay Avenue Parking Lot portion of the Site, was listed in the BEA Database, indicating exceedances of Part 201 Criteria are present on that property; however, no information related to the specific exceedances of criteria was available.

3.6.2 Previous Investigations and Remedial Actions

Based on groundwater flow direction measured on the west side of Cole Drain, it appears that groundwater on the west side of the drain flows north-northeast.

A review of the LUST database indicated that the release associated with the Ryder Truck property was closed on February 2, 2012.

Specific investigation related to these properties was limited to evaluation of the Kendall Electric Property at 3838 Clay Ave SW which was historically part of the Site and an NFA Report for the property was approved in March 2015 (see AOI 4.2). Groundwater sample results from monitoring wells along the western Site boundary did not indicate the presence of impact on the Site that may be attributable to the adjoining properties.

3.6.3 Current Status and Conclusions

Based on the results of the investigation of AOI 4.2 and groundwater monitoring results along the western Site boundary, no additional action related to this AOI is necessary.

3.7 AOI 3: Adjacent Properties – West Side of Cole Drain

3.7.1 Historical Operations

The area to the northwest of the Site has been developed for industrial use since at least 1960, based on aerial photographs. Based on the nature of the long-term historical operations conducted on these properties, the groundwater flow direction to the north-northeast in this area making these properties downgradient and cross-gradient of the Site, and the known impacts on those properties above the Part 201 Criteria that may be commingling with the plume from the Site, these properties were identified as an AOI.

3.7.2 Previous Investigations and Remedial Actions

In 2004, VAS (HP11-04) was conducted on the east side of Cole Drain in approximately 10-foot intervals from the water table to the top of the clay layer (at 12, 22, 32, 42, 52, 62, and 69 feet bgs) to further evaluate the groundwater conditions relative to the cVOC plume associated with the Site. A clay confining layer was encountered at approximately 39.5 feet bgs. Analytical results did not indicate the presence of TCE above the Part 201 Residential DWC until 32 feet bgs or the presence

of PCE above the Part 201 Residential DWC until 42 feet bgs. PCE was detected above the Part 201 Residential DWC at concentrations of 17 µg/L (at 42 feet bgs) and 15 µg/L (at 52 feet bgs), and TCE was detected above the Part 201 Residential DWC at concentrations of 23 µg/L (at 32 feet bgs), 34 µg/L (at 42 feet bgs), 19 µg/L (at 52 feet bgs), 7.4 µg/L (at 62 feet bgs), and 17 µg/L (at 69 feet bgs). Based on the results of the VAS, MW11D-04 was installed and screened from 40 to 45 feet bgs in 2004, and MW11S-05 was installed and screened from 5 to 10 feet bgs in 2005. Subsequent to the installation of MW11D-04, concentrations of PCE and TCE have decreased in groundwater monitoring samples collected during routine monitoring events, with PCE non-detect and a detected concentration of TCE in October 2015 of 2.3 µg/L, which is below the Part 201 residential DWC.

Based on investigations conducted to date, PCE is present in groundwater in a monitoring well (MW17-06) on the west side of Cole Drain at concentrations above the Part 201 Residential and Nonresidential DWC and the GSIC. The monitoring well is located to the north of 36th Street on property owned by Consumers. Prior to installation of MW17-06, VAS was completed in approximately 10-foot intervals from the water table to the top of the clay layer (at 10, 20, 30, 40, 50, and 55 feet bgs). A clay confining layer was encountered at approximately 56 feet bgs. Analytical results did not indicate the presence of PCE above the Part 201 Residential DWC until the 50 and 55-foot intervals, with concentrations of 18 µg/L and 12 µg/L, respectively. TCE was also detected in these intervals at concentrations of 7.6 µg/L and 5.9 µg/L, respectively. Based on the results of the VAS, MW17-06 was installed and screened from 51 to 56 feet bgs in 2006. Subsequent to the installation of MW17-06, concentrations of PCE have increased and TCE concentrations have remained consistent in groundwater monitoring samples collected during routine monitoring events, with detected concentrations of PCE and TCE in October 2015 of 160 µg/L and 8.3 µg/L, respectively.

Additional monitoring wells (88-1, 88-2, 88-3, and 88-4) located on the west side of Cole Drain on property owned by Consumers, to the north of MW17-06, were installed in 1988. Based on monitoring results, neither PCE nor TCE have been detected in these wells.

During the 2013 Site-Wide Investigation, vertical profiling (VAS48-13) was conducted immediately north of 36th Street, west of the railroad tracks. VAS was completed in approximately 10-foot intervals from the water table to the top of the clay layer (at 16, 26, 36, 46, and 51 feet bgs). A clay confining layer was encountered at approximately 51.5 feet bgs. Groundwater samples collected from VAS48-13 did not detect any concentrations of PCE or TCE. A monitoring well (MW48-13) was installed in this location. Sampling conducted to date has not detected any cVOCs. MW48-13 is located southwest of MW17-06 and west of Cole Drain.

Based on analytical data collected to date for the well on the west side of Cole Drain and for the wells on the east side of Cole Drain, concentrations of PCE are higher on the west side of the drain than on the east side, suggesting the source of the PCE is to the west of Cole Drain. Groundwater flow direction in the area of Cole Drain appears to be to the north-northeast from the west side of the drain, and to the north-northwest on the east side of the drain, suggesting that Cole Drain is a gaining stream.

A summary of groundwater and VAS sample analytical results compared to Part 201 Criteria are presented in the environmental investigations listed in Section 3.1.. Refer to Figure 3.2 for sample locations.

3.7.3 Current Status and Conclusions

Based on the vertical aquifer and monitoring well sample results at this location, its location relative to the identified detection of PCE in MW17-06, and the groundwater flow direction determined on the west side of Cole Drain, it is likely that the source of cVOCs detected in MW17-06 originated from the industrial properties located immediately north of MW48-13 and not the Site. The composition of contaminants in groundwater samples collected semi-annually from MW17-06 is consistently different in nature than nearby monitoring well samples on the east side of Cole Drain collected at similar depths. The results are also consistently of a greater magnitude in concentration than any nearby monitoring locations, or any location that has been confirmed to be located in the extent of the Site's TCE plume. Based on the information presented above, no additional action related to this AOI is necessary.

3.8 AOI 4: Historical Site Operations

The majority of the Site was operated on a long-term basis as an industrial property dating back to 1936, including operations associated with stamping, machining, degreasing, metal finishing, and various other manufacturing operations and the associated industrial infrastructure (i.e. sewers, pits, etc.). Additionally, the properties to the north of 36th Street that also comprise the Site were utilized for a mixture of residential and commercial uses. These activities typically utilize, store and dispose of a variety of chemicals and; therefore, are considered an AOI. Individually known operations are further discussed below by former and/or current parcel.

3.8.1 AOI 4.1: Long-term Industrial Operations – Main Parcel

3.8.1.1 Historical Operations

The majority of the Site was operated on a long-term basis as an industrial property dating back to 1936, including operations associated with stamping, machining, degreasing, metal finishing, and various other manufacturing operations and the associated industrial infrastructure (i.e. sewers, pits, etc.). No specific documentation was available regarding chemicals used, chemical storage locations, or historic disposal practices during the entire timeframe the property has been utilized for industrial purposes. Industrial facilities like the Site typically, either currently or historically, use significant quantities of chlorinated solvents, heavy metals, PCBs, and petroleum products.

3.8.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation, SB41-11 was advanced in the area near Columns Q-R, Rows 42-43 where a paint storage room was identified on a 1950 drawing. In addition, SB42-11 was advanced in the area near Columns Q-R, Rows 51-52 where an oil storage room was identified on a 1950 drawing. Two soil samples were collected from SB41-11 and SB42-11 (1 to 3 feet bgs and 18 to 20 feet bgs) and submitted to the analytical laboratory for analysis of Target Compound List (TCL) VOCs, polynuclear aromatic hydrocarbons (PAHs), and Site-specific Target Analyte List

(TAL) metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC.

During the 2012 Stage III Site-Wide Investigation, SB189-12 was advanced adjacent to a former geotechnical boring conducted by Soils & Materials Engineers, Inc. (SME) as part of plant expansion activities in the 1980s. The historical stratigraphic soil boring log indicated a "solvent-like odor" in the original geotechnical boring. Three soil samples were collected from SB189-12 (0 to 2 feet bgs, 10.5 to 12.5 feet bgs, and 14 to 16 feet bgs) and submitted to the analytical laboratory for analysis of TCL VOCs, TCL Semi-Volatile Organic Compounds (SVOCs), Site-specific TAL metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. A temporary monitoring well was also installed in SB189-12 with the top of the screen set at 17 feet bgs. A groundwater sample was collected and submitted for analysis of TCL VOCs, TCL SVOCs, Site-specific TAL metals (dissolved) and PCBs. Manganese was detected above the Part 201 Nonresidential aesthetic-based DWC. No other compounds were detected in groundwater that exceeded the Part 201 Criteria.

Based on the results of the 2012 investigation, an additional soil boring (SB221-13) was advanced near SB189-12. Soil samples were collected from 1 to 3 feet bgs and 3 to 5 feet bgs based on field observations. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. A monitoring well (MW58-13) was installed in this location and screened from 13.5 to 18.5 feet bgs to monitor the potential for soil contaminants to impact groundwater. Groundwater samples collected from MW58-13 have not identified exceedances of any Part 201 Criteria. Soil sample analytical results are presented in Table 3.8.1. Refer to Figure 3.2 for sample locations.

The remaining majority of sample locations included under this AOI are primarily a result of conditions observed during Site demolition and the subsequent remedial actions conducted. Further details regarding sampling and remedial actions conducted during Site demolition are presented in a memorandum titled Summary of Sampling and Remedial Action Activities prepared by CRA and dated July 16, 2013.

3.8.1.3 Current Status and Recommendations

Based on the results of the investigations discussed above, no additional action related to this AOI is necessary.

3.8.2 AOI 4.2: Historical Operations – Western Parcel

3.8.2.1 Historical Operations

The property to the west of the main manufacturing property along Clay Avenue SW was historically utilized for agricultural purposes and for water supply wells, a softener plant, and a chlorinator building. A 1957 drawing and 1960 aerial photograph identify the presence of small structures located on this property. The 1957 drawing identifies Well Nos. 11 to 16, a softener plant, and a chlorinator building on this property.

Based on the historic use of the western portion of the Site as cultivated farmland, agricultural chemicals such as pesticides, herbicides and fertilizer would have historically been used on the Site. Information regarding historic use, storage or application rates was not available. If the chemicals were applied in accordance with manufacturer recommendations, residuals remaining in Site soils would be expected to be similar to other area properties. Application of agricultural chemicals for intended use is not considered a release.

3.8.2.2 Previous Investigations and Remedial Actions

The site was investigated during the 2011 Stage II Site-Wide Investigation. The property was purchased by Kendall Electric, Inc. in 2014 and a NFA Report was prepared by CRA and submitted to the MDEQ in 2014. Details of the investigation results are presented in the NFA Report discussed in Section 3.1.

3.8.2.3 Current Status and Conclusions

The NFA Report submitted to the MDEQ was approved in March 2015. The Site has been redeveloped by Kendall Electric, Inc. with the construction of a manufacturing facility. AOI 4.2 is located off-Site, accordingly, AOI 4.2 is not addressed as part of this NFA.

3.8.3 AOI 4.3: Historical Operations – Northern Parcel

3.8.3.1 Historical Operations

The properties to the north of 36th Street SW were historically utilized for residential, agricultural, and commercial purposes, including printing and body shops.

Based on the review of historical aerial photographs, city directories, topographic maps, and Site drawings, portions of the Site were historic residential and commercial properties. No information was available regarding the type of heating, underground storage tank (UST) or aboveground storage tank (AST) use, or the presence of septic systems, cesspools or water wells.

Based on the historic use of the northern portion of the Site as cultivated farmland, agricultural chemicals such as pesticides, herbicides and fertilizer would have historically been used on the Site. Information regarding historic use, storage or application rates was not available. If the chemicals were applied in accordance with manufacturer recommendations, residuals remaining in Site soils would be expected to be similar to other area properties. Application of agricultural chemicals for intended use is not considered a release.

Based on the review of available city directories, the property at 333 36th Street SW was listed as Helmus Garage & Body Shop in the 1948, 1953, 1957, 1961, and 1966 city directories and the property at 229 36th Street SW was listed as Raenell Press (printers) in the 1971 and 1975 city directories. No specific documentation was available regarding chemicals used, chemical storage locations, or historic disposal practices during the timeframe this property was utilized for vehicle repair or printing activities. Facilities like these typically may have used chlorinated solvents, heavy metals, inks, and petroleum products.

3.8.3.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB43-11 was advanced in the southern portion of the former employee parking lot on the north side of 36th Street. Three soil samples were collected from SB43-11 (0.5 to 2.5 feet bgs, 6 to 8 feet bgs, and 13 to 15 feet bgs). The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in table 3.8.3. Refer to Figure 3.2 for sample locations.

3.8.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.9 AOI 5: Release from Press HS-5

3.9.1 Historical Operations

Contamination from a release of water soluble oil from a press pit pan (HS-5 Press, which was identified to be near Press Z-1, in 15-Bay) was identified in soil and groundwater at the Site in 1981.

3.9.2 Previous Investigations and Remedial Actions

The release was investigated in 1981 and 1982, with soil and groundwater samples collected in this area. Black stained soil was observed during the sample collection. Soil and groundwater samples collected during the investigation were analyzed for grease and oil, total organic carbon (TOC), and chlorinated paraffin. The results of the sample analyses indicated detections of grease and oil, TOC, and chlorinated paraffin in multiple locations. Environmental Data, Inc. (EDI) concluded that the no substantial impact on groundwater quality was present as a result of the investigation. EDI recommended an additional groundwater sample be collected for analysis of U.S. EPA Priority Pollutants (a list of select SVOCs). No compounds from the Priority Pollutants list were detected in the additional groundwater sample. Based on analytical results from soil and groundwater samples collected in the vicinity of the release and a review of the Material Safety Data Sheet (MSDS) for the oil, EDI concluded that no chemicals of concern were detected in the soil or groundwater samples above the applicable regulatory limits at the time the samples were collected. There are currently no established Part 201 criteria for grease and oil, TOC, or chlorinated parrafins to allow for comparison of the historical sample results.

3.9.3 Current Status and Conclusions

Based on the results of the investigation conducted by EDI and groundwater data collected to-date from monitoring wells installed near this AOI, no additional action related to this AOI is necessary.

3.10 AOI 6: LNAPL and SVOC-impacted Groundwater

The LNAPL historically present on the Site is evaluated in detail in the LNAPL Conceptual Site Model (LCSM) memorandum presented in Appendix B. A brief summary of this AOI is presented below.

3.10.1 Historical Operations

An area in the northeastern portion of the Site was excavated during plant modernization activities in June 1985. The excavation was approximately 20 feet in depth, and was located near Column A-15 of the plant. Soil was removed in particular areas to the water table, where LNAPL was observed. The LNAPL was believed to consist of mineral seal oil and/or mineral spirits, which were used in processes in this portion of the plant for approximately 50 years. According to Site records reviewed, a release was reported to the National Response Center and the MDNR on July 26, 1985.

3.10.2 Previous Investigations and Remedial Actions

Based on the visual and olfactory presence of contamination in the excavation, a hydrogeological investigation (HI) was undertaken by EDI to determine the extent of the oil contamination. A total of seven monitoring wells, were installed during the HI; four of the wells were installed around the excavation, in the northeastern portion of the plant, and three wells were installed outside the plant on the north, northwest, and west sides of the plant. LNAPL was identified in monitoring wells located in the northeast portion of the plant. Subsequent investigations continued to monitor on a regular basis for the presence of LNAPL in select monitoring wells and groundwater samples were analyzed for SVOCs, with exceedances of the Part 201 Criteria exhibited in the groundwater samples. LNAPL was observed on a periodic basis in monitoring wells 85-5B and 85-3.

During demolition activities in 2011, the basement to the northwest of this area was flooded and oil sheen was observed on top of the water. Additionally, during demolition of the former basement foundation walls in 2012 near Column A-16 to A-18, oil globules were observed on the surface of the water table and near Column A-21, a mineral spirits-type odor was noted. During the 2012 Site-wide Investigation three monitoring wells (MW50-12 through MW52-12) were installed in these areas with screens that straddle the water table to monitor for LNAPL. Petroleum odor was noted in soil cuttings during monitoring well installation. A measurable amount of LNAPL has not been detected in monitoring wells in this area during recent monitoring events; however, sheen has occasionally been noted on sample purge water and occasionally in some locations a weathered petroleum or mineral spirits odor is evident in the purge water.

Based on historical stamping operations in the area of AOI 6 and previous sample results from MW44-12 identifying detections of 1,1,1-TCA below Part 201 GRCC, groundwater samples were collected from monitoring well MW44-12 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.10.3 Current Status and Conclusions

Based on the information presented in the LCSM memorandum, no additional action related to this AOI is necessary.

3.11 AOI 7: Former Metal Finishing Operations

Based on the review of available information, metal finishing operations, including metal preparation, chromium plating, and various coating operations, were conducted at the Site.

3.11.1 AOI 7.1 – Bonderizing Operations

3.11.1.1 Historical Operations

A bonderizing/prime system was identified on a 1951 drawing between Columns U and W, Rows 42 to 46. This system included an alkali rinse, hot rinse, bonderite (a phosphate surface coating), cold rinse, and chromic acid dip tanks, a blow off oven, a prime spray booth, a final spray booth, and a final oven. The drawing also identified floor drains and a sludge tank in this area.

3.11.1.2 Previous Investigations and Remedial Actions

SB45-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 18 to 20 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.1. Refer to Figure 3.2 for sample locations.

Based on the historical metal surface coating operations of AOI 7.1, groundwater samples were collected from monitoring wells MW32-12, MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of Perfluorinated Chemicals (PFCs), including Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS). The results did not indicate an exceedance of the MDEQ developed Residential and Nonresidential DWC for PFOA and PFOS that took effect on January 10, 2018. A summary of the sampling is presented in Appendix E.

3.11.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.2 AOI 7.2 – Lacquer and Cement Spray

3.11.2.1 Historical Operations

Lacquer and cement spray booth operations were identified on a 1939 drawing to have been historically conducted on instrument panels from Columns O to Q, Row 39 to 42. Site personnel also indicated that this area was historically utilized for zinc prime operations in subsequent years. No further information regarding these operations was available.

3.11.2.2 Previous Investigations and Remedial Actions

SB46-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 19 to 21 ft bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.2. Refer to Figure 3.2 for sample locations.

3.11.2.3 Current Status and Recommendations

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.3 AOI 7.3 – Anti-rust Spray Booth No. 1

3.11.3.1 Historical Operations

Anti-rust oil spray booth No. 1 operations, which included approximately 110-gallon oil tanks situated on the plant floor or in below grade pits, were identified on a 1937 drawing to have been historically conducted at Columns U to X, Row 16. No further information regarding these operations was available. The anti-rust spray booth operations utilize petroleum products. Based on the nature of the chemicals utilized and the operational timeframe, the former anti-rust spray booth operations were considered an AOI.

3.11.3.2 Previous Investigations and Remedial Actions

SB47-11 was advanced in this area during the 2011 Site-Wide Investigation – Stage I; however, refusal was encountered at 4.5 feet bgs. Based on the review of historical drawings and noted depths of the pits, the boring was possibly installed within a former pit. To further evaluate this area, SB263-13 was advanced approximately 20 feet to the north of SB47-11, which was estimated to be outside of the former pit, and two soil samples were collected, one from the interval below the assumed bottom of the former pit presented on historical drawings and one from immediately above the water table and submitted for laboratory analysis of TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.3. Refer to Figure 3.2 for sample locations.

3.11.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.4 AOI 7.4 – Anti-rust Spray Booth No. 2

3.11.4.1 Historical Operations

Anti-rust oil spray booth No. 2 operations, which included approximately 110-gallon oil tanks situated on the plant floor or in below grade pits, were identified on a 1937 drawing to have been historically conducted at Columns O to R, Row 13. Site personnel also indicated that the general Booth #2 area was historically utilized for zinc prime operations in subsequent years. No further information regarding these operations was available.

3.11.4.2 Previous Investigations and Remedial Actions

SB48-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 20 to 22 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.4. Refer to Figure 3.2 for sample locations.

3.11.4.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.5 AOI 7.5 – Anti-rust Spray Booth No. 3

3.11.5.1 Historical Operations

Anti-rust oil spray booth No. 3 operations, which included approximately 110-gallon oil tanks situated on the plant floor or in below grade pits, were identified on a 1937 drawing to have been historically conducted at Columns U to X, Row 7. Site personnel also indicated that the general Booth #3 areas were historically utilized for zinc prime operations in subsequent years. No further information regarding these operations was available.

3.11.5.2 Previous Investigations and Remedial Actions

SB49-11 was advanced in this area during the initial Site-Wide Investigation. A soil sample was collected from 20 to 22 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.5. Refer to Figure 3.2 for sample locations.

3.11.5.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.6 AOI 7.6 – Anti-rust Spray Booth No. 4

3.11.6.1 Historical Operations

Anti-rust oil spray booth No. 4 operations, which included approximately 110-gallon oil tanks situated on the plant floor or in below grade pits, were identified on a 1937 drawing to have been historically conducted at Columns Q to T, Row 4. No further information regarding these operations was available.

3.11.6.2 Previous Investigations and Remedial Actions

SB50-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 20 to 22 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.6. Refer to Figure 3.2 for sample locations.

3.11.6.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.7 AOI 7.7 – Former West Paint Booth

3.11.7.1 Historical Operations

A waterfall type (i.e., wet) paint booth with below grade water tanks and sump pits was historically located at the Site at Columns P to Q, Rows 24 to 25. The paint booth is identified as "gun carriage" on a drawing circa 1942. No further information was available regarding this paint booth. No information was identified regarding the duration this unit operated or a release from the system. Painting operations typically utilize solvent and metal based chemicals.

3.11.7.2 Previous Investigations and Remedial Actions

SB51-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 19 to 21 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.7. Refer to Figure 3.2 for sample locations.

3.11.7.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.8 AOI 7.8 – Former Paint Booth (Current Steam Clean Booth)

3.11.8.1 Historical Operations

The current steam clean booth located at Column N, Row 47, was reportedly historically used as a wet paint booth. No information was identified regarding the duration this unit operated or a release from the system. Painting operations typically utilize solvent and metal based chemicals.

3.11.8.2 Previous Investigations and Remedial Actions

SB52-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 17 to 19 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.8. Refer to Figure 3.2 for sample locations.

3.11.8.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.11.9 AOI 7.9 – Former East Paint Booth

3.11.9.1 Historical Operations

A waterfall type (i.e., wet) paint booth with below grade water tanks and sump pits was reportedly historically located at the Site at Column O to N, Rows 26 to 28. No further information was available regarding this paint booth. No information was identified regarding the duration this unit operated or a release from the system. Painting operations typically utilize solvent and metal based chemicals.

3.11.9.2 Previous Investigations and Remedial Actions

SB53-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 20 to 22 feet bgs and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.11.9. Refer to Figure 3.2 for sample locations.

3.11.9.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.12 AOI 8.0 – Underground Storage Tanks (USTs)

According to Site personnel and based on the review of available information, numerous USTs have historically existed and currently exist at the Site. USTs present a potential for a release to the environment if the integrity of the USTs and/or associated piping was compromised while the USTs were/are in use. Each of the Site's former and current USTs are therefore considered an AOI. The USTs that relate to specific buildings or operations are discussed with the respective AOI. The remaining USTs are discussed below.

3.12.1 AOI 8.1 – Mineral Spirits and Mineral Seal Oil USTs

3.12.1.1 Historical Operations

Based on the review of available documentation from 1981, the Site historically utilized mineral spirits to dilute mineral seal oil that was used in operations. The mineral spirits and mineral oil were stored in four USTs (one mineral spirits UST and three mineral seal oil USTs) located to the south of Row 51 between Columns R and S. Based on the review of an air emissions permit application for the mineral spirits UST, the capacity of the mineral spirits UST was approximately 7,800 gallons. The capacities of the mineral seal oil USTs were not identified; however, drawings of the tanks depict the three mineral seal oil USTs to be similar in size to the mineral spirits UST. According to review of the Environmental Impairment Liability Questionnaire dated October 13, 1982, mineral seal oil and mineral spirits were stored in USTs at that time.

Review of a MDNR Notification for USTs, dated April 24, 1986, identified four 8,000-gallon fiberglass USTs were present at the Site at that time, containing mineral seal oil, mineral spirits, machine oil, and hydraulic oil (Tank Nos. 1 through 4, respectively). The UST database identified four removed USTs (Tank Nos. 1 through 4) associated with the Site, including two 8,000-gallon hazardous substance USTs (Tank Nos. 1 and 2), one 8,000-gallon machine oil UST (Tank No. 3), and one 8,000-gallon hydraulic oil UST (Tank No. 4). Additionally, a drawing available from the City of Wyoming Fire Department depicted four 8,000-gallon fiberglass fuel oil USTs to the south of the Main Manufacturing Building (at that time), east of former Railroad Track No. 5, northeast of the Primary Switch House, and west of the cooling towers. These USTs appear to be in the same general location as the aforementioned USTs. Based on the review of the environmental database search results, four 8,000 gallon USTs were removed on January 1, 1986 (Tank Nos. 1, 2 and 4) and January 1, 1987 (Tank No. 3), which is inconsistent with the MDNR Notification for USTs form discussed above, which indicated that the four tanks were present on April 24, 1986.

No further information regarding the 8,000-gallon mineral spirits/mineral seal oil USTs was available.

3.12.1.2 Previous Investigations and Remedial Actions

During the initial Site-wide Investigation, two soil borings were advanced to investigate the former USTs. SB54-11 was advanced in this area and two soil samples were collected from 2 to 4 feet bgs and 17 to 19 feet bgs. SB55-11 was advanced to the northeast of SB54-11 and two soil samples were collected from 2 to 4 feet bgs and 15 to 17 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and PCBs. The soil sample analytical results

did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.12.1. Refer to Figure 3.2 for sample locations.

3.12.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.12.2 AOI 8.2 – Former Gasoline and Diesel USTs

3.12.2.1 Historical Operations

One 3,000 gallon diesel and one 8,000 gasoline UST were present at the Site. The USTs were reportedly installed on April 24, 1985 and are made of cathodically protected double walled steel, with fiberglass reinforced double walled plastic piping. The USTs were equipped with automatic tank gauging and interstitial monitoring for leak detection. Based on leak detection readings, a potential leak from the 8,000 gallon gasoline UST was reported to the MDEQ on April 27, 2006 (Incident No. S-0101-06). Information reviewed at the Site indicated that the leak detection reading resulted from a faulty sensor board that needed replacement. The Site was not listed in the LUST Database for this incident, as it was only a "suspected" release (i.e., S-XXXX-XX) and not a "confirmed" release (i.e., C-XXXX-XX).

3.12.2.2 Previous Investigations and Remedial Actions

Testing of Gasoline and Diesel Fuel Underground Tanks forms completed on 12 occasions between 1991 and 1998 were available for review on Site. According to the information reviewed, the items tested during each event included monitor well N.E., monitor well N.W., monitor well S.E., monitor well S.W., gasoline containment vessel, diesel containment vessel, catch basin (reportedly 12 feet deep), and pollution alert electrical system. No significant issues associated with these items were identified during the inspections. According to on Site records reviewed, the gasoline and diesel fuel USTs were equipped with leak detection equipment. Daily leak detection printouts dated between 1996 and 2001 were available for review and identified changes in fluid levels as "LD Failed", indicating the potential failure of the leak detection. CRA identified 32 potential leaks from the gasoline UST ranging from 0.10 and 4.61 gallons per hour (gal/hr) and eight possible leaks from the diesel UST ranging from 0.12 and 3.02 gal/hr from review of the leak detection printouts.

Both tanks were removed in November 2011 by SME in support of ongoing redevelopment activities. A confirmed release was reported to the MDEQ by SME after a floor sample taken under the 3,000-gallon diesel tank exhibited a concentration of naphthalene greater than GSIPC. CRA conducted a soil and groundwater investigation of the former UST. Closure of the confirmed release was completed in 2012 and the details of the investigation are presented in the Closure Report submitted to the MDEQ LUST Division in October 2012.

3.12.2.3 Current Status and Conclusions

Closure of the confirmed release was completed in 2012; therefore, no additional action related to this AOI is necessary.

3.12.3 AOI 8.3 – Former Heating Oil and Oil USTs

3.12.3.1 Historical Operations

Three 50,000-gallon fuel oil tanks for boiler backup for the current Power House were installed in 1970 to the north of the east cooling tower.

3.12.3.2 Previous Investigations and Remedial Actions

According to records reviewed, the three 50,000-gallon USTs were removed from the Site on August 21, 1985. The UST removal was overseen by the Fire Department and according to the inspection report, two of the USTs contained "oil" and one contained fuel oil. The USTs were reportedly cleaned by Great Lakes Tank Cleaning Company and removed and disposed off-Site by Hardman Construction Company. Photographs of the UST removal included in the Fire Department file for the Site were reviewed by CRA. None of the photographs available for review indicated a release from the USTs and the USTs appeared to be in good condition at the time of removal. However, no verification soil samples were collected at the time of the tank removal.

During the initial Site-wide Investigation, two soil borings were advanced to investigate the former USTs. SB57-11 was advanced in this area and two soil samples were collected from 1 to 3 feet bgs and 16.5 to 18.5 feet bgs. SB58-11 was also advanced in this area and two soil samples were collected from 1 to 3 feet bgs and 16.5 to 18.5 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB57-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample analytical results exhibited a concentration of PCE exceeding Residential and Nonresidential DWC. Soil sample and temporary monitoring well sample analytical results compared to Part 201 Criteria are presented in Table 3.12.3. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.12.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.12.4 AOI 8.4 – Former 5,000-Gallon and 8,000-Gallon Gasoline USTs

3.12.4.1 Historical Operations

One 5,000-gallon gasoline UST was inspected by the Fire Department on September 19, 1985 during removal. Based on the review of available Fire Department records, the 5,000-gallon gasoline UST was located to the south of the plant, east of Railroad Track No. 5, and west of the cooling towers. No information was available regarding the age or construction of the former UST.

An 8,000-gallon gasoline UST and associated dispenser are identified in the same general area on a February 1985 drawing from the Site. It could not be confirmed if these were the same tanks, with

an incorrect volume listed on the drawing or if one was a replacement for the other, from the available documentation.

3.12.4.2 Previous Investigations and Remedial Actions

According to the inspection report, the 5,000-gallon UST was removed by Bosch Mechanical and Riverside Gravel Co., cleaned, and disposed of off-Site. Based on review of the inspection report, no evidence or indication of a release was observed at the time of removal. No verification soil samples were collected at the time of the tank removal.

During the 2012 Site-wide Investigation, one soil borings was advanced to investigate the former USTs. SB190-12 was advanced in this area and two soil samples were collected from 0 to 2 feet bgs and 14 to 16 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB190-12 through the borehole drill rods utilizing a stainless steel screen and expendable screen point and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals (dissolved). The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample collected exhibited a concentration of manganese exceeding the Part 201 aesthetic-based Residential and Nonresidential DWC. Soil sample and temporary monitoring well analytical results compared to Part 201 Criteria are presented in Table 3.12.4. Temporary monitoring well sample results are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.12.4.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.12.5 AOI 8.5 – Former 1,000-Gallon Gasoline UST No. 1

3.12.5.1 Historical Operations

Based on the review of a 1951 drawing, a 1,000-gallon gasoline UST (Tank No. 1) and pump were identified south of Row 35 (no Column available), and just south of the outside of the 1950 addition on the eastern side of the Main Manufacturing Building. On a 1955 drawing, a "gas tank and pump" (Tank No. 2) were identified as being relocated. There are no Columns or Rows identified on the drawing; however, the tank is shown to the north of the former Heat Treat Building and to the west of the former Baler House. No further details were identified on the drawing. It could not be confirmed that the 1,000-gallon UST identified on the 1951 drawing (after the 1950 addition) was relocated to the south after the 1954 addition in this area.

3.12.5.2 Previous Investigations and Remedial Actions

During the initial Site-wide Investigation, one soil boring was advanced to investigate the former UST. SB61-11 was advanced in this area and two soil samples were collected from 1 to 3 feet bgs and 18 to 20 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB61-11 after installation of a 1-inch PVC screen and riser and submitted to the analytical

laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample analytical results did not indicate any exceedance of Part 201 criteria. Soil sample and temporary monitoring well analytical results compared to Part 201 Criteria are presented in Table 3.12.5. Temporary monitoring well sample results are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

The concentration of PCBs detected in the shallow soil sample exceeded the TSCA High Occupancy Criteria of 1 ppm total PCBs. Issues related to the unknown source of PCB contamination investigation and remediation are discussed further under AOIs 39.1 and 39.2.

3.12.5.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.12.6 AOI 8.6 – Former 1,000-Gallon Gasoline UST No. 2

3.12.6.1 Historical Operations

Based on the review of a 1951 drawing, a 1,000-gallon gasoline UST (Tank No. 1) and pump were identified south of Row 35 (no Column available), and just south of the outside of the 1950 addition on the eastern side of the Main Manufacturing Building. On a 1955 drawing, a "gas tank and pump" (Tank No. 2) were identified as being relocated. There are no Columns or Rows identified on the drawing; however, the tank is shown to the north of the former Heat Treat Building and to the west of the former Baler House. No further details were identified on the drawing. It could not be confirmed that the 1,000-gallon UST identified on the 1951 drawing (after the 1950 addition) was relocated to the south after the 1954 addition in this area.

3.12.6.2 Previous Investigations and Remedial Actions

During the initial Site-wide Investigation, one soil borings was advanced to investigate the former UST. SB77-11 was advanced in this area and two soil samples were collected from 1 to 3 feet bgs and 18 to 20 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. The analytical results from the sample collected from 1 to 3 feet bgs exhibited a concentration of benzo(a)pyrene exceeding Nonresidential DCC; therefore, remediation of this area was required. Additional delineation soil borings were installed during Stage II of the 2011 Site-wide Investigation and remediation of this area was completed during 2012 through soil excavation and off-Site disposal. Details of the delineation sampling, excavation, and verification sampling were included in a memorandum titled Summary of Sampling and Remedial Action Activities discussed in Section 3.1. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.12.6. Refer to Figure 3.2 for sample locations.

3.12.6.3 Current Status and Conclusions

Based on the results of the investigation and remedial action conducted, no additional action related to this AOI is necessary.

3.12.7 AOI 8.7 – Potential UST (near Column O, Row 45)

3.12.7.1 Historical Operations

During the private utility locate, utilizing ground-penetrating radar, conducted as part of the implementation of the Site-Wide Investigation, a potential UST was identified near Column O, Row 45 (AOI 8.7). No further information regarding the tank was available, including age, construction, contents, etc.

3.12.7.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation, SB60-11 was advanced near the potential UST and soil samples were collected from 1 to 3 feet bgs and 18 to 20 feet bgs. The samples were submitted to the analytical laboratory and analyzed for TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. A groundwater sample was also collected from SB60-11 after installation of a 1-inch PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). Manganese was detected in the groundwater sample at a concentration exceeding the aesthetic-based Residential and Nonresidential DWC. Soil and temporary monitoring well sample analytical results compared to Part 201 Criteria are presented in Table 3.12.7. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2.

3.12.7.3 Current Status and Conclusions

Based on the results of the investigation discussed above and the fact that during demolition and re-grading activities in this area no tanks were identified, no additional action related to this AOI is necessary.

3.13 AOI 9 – Former Wastewater Treatment Plant (WWTP)

3.13.1 Historical Operations

The WWTP was constructed in 1970 for the pretreatment of process wastewater from the Site prior to discharge to the City of Wyoming municipal sanitary sewer system. The WWTP was constructed to pre-treat process wastewater discharged from the metal finishing, heat treat, battery charge, steam clean, press pit, and elevator pit areas, where chemicals such as petroleum products, solvents, and acids would have been utilized. The 100,000-gallon single-walled steel used oil AST located outside the WWTP to the east was noted on Site drawings to have been constructed on an oily sand cushion. Additional ASTs at the WWTP include: two 45,000-gallon steel oily wastewater batch tanks located outside the building; one 2,200-gallon single-walled steel oil/water separator AST inside the building; one 3,000 gallon single-walled steel scum holding AST inside the building; two 6,000 gallon single-walled steel used oil ASTs located outside the building between the batch tanks and the 100,000-gallon used oil AST; one 5,000-gallon single-walled steel oily WWTP sludge AST inside the building; and four ASTs of unknown capacity containing wastewater treatment chemicals including caustic, flocculant, and coagulant.

3.13.2 Previous Investigations and Remedial Actions

Significant staining was noted on the interior of the building and sumps inside the building, and adjacent to a sump near the 6,000 gallon used oil ASTs during the site inspection.

During the initial Site-Wide Investigation four soil borings (SB62-11 through SB65-11) were advanced in this area. Soil samples were collected from immediately below the ground surface and directly above the groundwater table. Soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB64-11 after installation of a 1-inch PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved).

During a Facility Environmental Assessment (FEA) conducted by CRA in 2010, a concrete core sample was collected adjacent to a sludge pit in the former WWTP. Based on the analytical results from the concrete core sample, PCBs were detected at a concentration of 6.6 mg/kg. Based on the detection of PCBs, the floor slab of the former WWTP was removed during demolition activities under an approved Self Implementing Plan (SIP) by MCM Management Corp. (MCM). Subsequent to the removal of the former WWTP building slab, a hand auger soil boring (SB188 12) was advanced on May 23, 2012 to 4 ft bgs beneath the former concrete that was identified to be impacted. Soil samples were collected from 0 to 2 ft and 2 to 4 ft bgs to evaluate potential impacts. The soil samples were submitted to the analytical laboratory for analysis of PCBs. Based on the analytical results, PCBs were not detected in the soil samples above 1 ppm.

Additional investigation of the WWTP was conducted in 2012 after completion of demolition. Four soil borings (SB191-12 through SB194-12) were advanced adjacent to the former fuel oil tank, former wastewater process tanks, and the former WWTP building. Two samples were collected from each boring; one from immediately below the ground surface and one directly above the water table. Samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB192-12 and SB194-12 through the borehole drill rods utilizing a stainless steel screen and expendable screen point and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals (dissolved).

The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Manganese was detected in both groundwater samples at a concentration exceeding the aesthetic-based Residential and Nonresidential DWC. Soil sample and temporary monitoring well analytical results compared to Part 201 Criteria are presented in Table 3.13. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.13.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.14 AOI 10 – Power House Operations

3.14.1 AOI 10.1 - Former Power House (most recent)

3.14.1.1 Historical Operations

The most recent Former Power House was constructed at the Site in 1970 and was located to the south of the former Main Manufacturing Building and adjacent to the east of the former Baler House. The Power House provided building heat and steam to the Site. The Power House was a multiple story building with a basement and included three natural gas fired boilers, which had the ability to burn waste oil, No. 2 oil, or No. 6 oil. A below grade brine pit was present outside to the north of the Power House and to the south of the cooling water towers and pumps. No information was available regarding the construction details of the brine pit. A 500-gallon diesel AST was also present within the Power House.

The Power House was demolished during 2012, along with all other associated and nearby structures. However, the basement foundation floor and walls, as well as other below grade structural concrete that was located more than 4 feet below the proposed final grade was left in place.

3.14.1.2 Previous Investigations and Remedial Actions

During Stage II of the Site-Wide Investigation SB136-11 was advanced near the below grade brine pit. Soil samples were collected from 0.5 to 2.5 ft bgs and 15 to 17 ft bgs from SB136-11 and submitted to the analytical laboratory for analysis of sodium and chloride.

During the 2012 Site-Wide Investigation two soil borings (SB195-12 and SB196-12) were advanced in the footprint of the former Power House. Two soil samples were collected from each boring from 0 to 2 ft bgs and 11 to 13 ft bgs and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB195-12 through the borehole drill rods utilizing a stainless steel screen and expendable screen point and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals (dissolved). As presented in the stratigraphic boring log for SB195-12, concrete foundation was encountered at 9 ft bgs that was one foot in thickness. An additional layer of concrete was discovered at 11 ft bgs that was also one foot in thickness. The deep soil sample was collected below this additional concrete foundation. The soil sample collected from SB195-12 at 11 to 13 ft bgs exhibited concentrations of various PAHs that exceeded residential and Nonresidential DCC.

In an effort to delineate the Nonresidential DCC exceedance identified in SB195-12, four additional soil borings (SB222-13 and SB274-13 through SB 276-13) were advanced around the former power house and a soil sample was collected from each at approximately the same depth as the Nonresidential DCC exceedance present in SB195-12. None of the samples analyzed from these additional borings exhibited concentrations of PAHs exceeding the Nonresidential DCC. Soil sample and temporary monitoring well analytical results compared to Part 201 Criteria are presented in Table 3.14.1. Temporary monitoring well sample analytical results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.3 for this sample location.

3.14.1.3 Current Status and Conclusions

The concentration of benzo(a)pyrene detected in SB195-12 exceeds the Nonresidential DCC. The horizontal and vertical extent of PAH contamination below the former power house basement has been delineated. The sample location information for SB195-12 is included in the RC. Therefore, no additional action related to this AOI is necessary.

3.14.2 AOI 10.2 - Former Power House

3.14.2.1 Historical Operations

A coal fired Power House was constructed at the Site during the initial development of the property by GMC in 1936 and was operated until 1970/71 when the most recent Power House was brought online. The former Power House was located to the west of the Main Manufacturing Building, adjacent to Column ZZ, Rows 19 and 24, and included an ash silo, skip pit and coal hopper, and Power House Building. Coal was stored outside, adjacent to the south of the former Power House, between Rows 24 and 33, in an area approximately 220 feet by 350 feet in area. Demolition plans for the former Power House indicated that the structural components, with the exception of the western wall of the building, were to be removed to the basement (or lowest floor) slab, with the concrete cracked to allow for infiltration. The former Power House utilized a four inch drain tile around the perimeter of the building, as well as numerous crocks, floor drains, sumps, and catch basins throughout the structure.

A below grade tunnel, located between Columns ZZ to W, Rows 22 1/2 and 22, was also reportedly removed, with the exception of the concrete floor that was cracked, to the western edge of the Main Manufacturing Building. Demolition plan drawings did not indicate whether or not abandonment/demolition activities were proposed for the portion of the tunnel that was present beneath the Main Manufacturing Building. This area is currently beneath the Main Manufacturing Building.

3.14.2.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation three soil borings (SB66-11 through SB68-11) were advanced in the vicinity of the former power house. A shallow soil sample (1 to 3 ft bgs) was collected from each soil boring. A soil sample was also collected from immediately above the water table from SB67-11 at 20 to 22 ft bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCS, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB67-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs and TCL SVOCs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample analytical results did not indicate any exceedance of Part 201 criteria. Temporary monitoring well sample results are presented in Table 3.2. Refer to Figure 3.2 for sample locations. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.14.2.

3.14.2.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.15 AOI 11 - Former AOF House

3.15.1 Historical Operations

An Acetylene, Oxygen, and Ferrolene (AOF) House was historically present to the west of the Main Manufacturing Building at Column ZZ, Rows 18 to 15. Acetylene, oxygen, and ferrolene were welding and cutting gasses utilized throughout the facilities for metal fabrication. Acetylene and ferrolene were fuel gasses that were combusted with oxygen to produce a high temperature flame. The AOF House was constructed circa 1936 and was demolished circa 1970. Available drawings indicate that the AOF originally included use of a 12,000 gallon UST containing oleum spirits; however, notes on the drawings indicated that the tank was never installed. Additionally, a 420-gallon ferrolene UST was present to the south of the AOF House. The AOF House consisted of the ferrolene room (including cyanide and lead pots), a pump room, the oxygen manifold and storage room, the carbide storage room, the acetylene storage room, the acetylene generator room, a loading platform serviced by a railroad siding, and sludge pits. Additional information regarding the chemicals utilized during the operation of the AOF House was not available.

3.15.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation two soil borings (SB69-11 and SB70-11) were advanced in this area. Two soil samples were collected from each boring at 1 to 3 ft bgs and 20 to 22 ft bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.15.

3.15.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.16 AOI 12 - Former Cooling Tower Basin

3.16.1 Historical Operations

A cooling tower and cooling tower basin are identified on a 19 drawing to the west of the former Power House, to the north of the 500,000 gallon fire suppression water AST and associated pump house, and to the south of the former 250,000 gallon elevated fire suppression water AST, in line with Rows 19 to 22 for the Main Manufacturing Building. No further information regarding the operation and construction of the cooling water tower and basin was available, including information regarding water treatment chemicals utilized, process associated with the generation point of water

cooled or sludge removal practices. The majority of cooling water systems operated during this timeframe used chromium as a biocide. This area is currently paved with concrete and/or asphalt.

3.16.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB71-11 was advanced in this area. Two soil samples were collected from 0.5 to 2.5 ft bgs and 15 to 17 ft bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB71-11 after the installation of a 1-inch diameter PVC screen and rise and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample results did not indicate any exceedance of Part 201 Criteria. Soil sample and temporary monitoring well analytical results compared to Part 201 Criteria are presented in Table 3.16. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.16.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.17 AOI 13 - Former Cooling Water Spray Pond

3.17.1 Historical Operations

A cooling water spray pond was historically located to the west of the former Power House, between Rows 13 and 18 1/2. The cooling water spray pond received process wastewater from air compressor blowdown and welding machine cooling water and discharged cooled water via return lines to the plant and to the storm sewer. Historical documentation indicates that silver, lead, and copper were historically utilized during welding operations. No information was available regarding the potential use of algaecides/biocides, nor was information related to removal of sludges from the cooling water spray pond.

3.17.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB72-11 was advanced in this area. Two soil samples were collected from 0.5 to 2.5 ft bgs and 13 to 15 ft bgs. No visual indication of impact or PID screening results were present that would have indicated a release. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.17.

3.17.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.18 AOI 14 - Former Sludge Bed

3.18.1 Historical Operations

A "present sludge bed to be filled in" was identified on a 1954/1955 drawing of the Site. Based on the review of available aerial photographs, this sludge bed was located to the north of the former Power House, to the northwest of the former AOF Building, and to the east of the cooling water spray pond. The area was not observed to be utilized as a sludge bed in the 1938 or 1960 aerial photographs; however, an undated aerial obtained from the Site that appears to be from prior to 1954 (based on facility construction) shows this area. This area is under a portion of the former Main Manufacturing Building. No information was available regarding the nature of the sludges or whether they were deposited in this area.

3.18.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation two soil borings (SB73-11 and SB74-11) were advanced in this area. Three soil samples were collected from SB73-11 at 1 to 3 ft bgs, 12 to 14 ft bgs, and 20 to 22 ft bgs. Two soil samples were collected from SB74-11 at 1 to 3 ft bgs and 12 to 14 ft bgs. The soil samples collected from 12 to 14 ft bgs interval in both borings were described as a sludge-like material. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. However, the results of the VOC analysis were all rejected following data validation due to matrix interference issues.

In an effort to obtain valid VOC results, SB254-13 was advanced adjacent to SB73-11 during the 2013 Site-Wide Investigation. Soil samples were collected from the same sludge-like material discovered at 9 to 9.75 ft bgs and 9.75 to 11 ft bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs and TCL SVOCs. A groundwater sample was also collected from SB254-13 after installation of a 1-inch PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample results did not indicate any exceedances of Part 201 Criteria. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.18. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.18.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.19 AOI 15 – Baler Operations

3.19.1 AOI 15.1 – Former Main Manufacturing Building Balers

3.19.1.1 Historical Operations

An area with two balers is identified on 1936 and 1950 drawings between Columns Q to O, Rows 20 1/2 to 22. No further information was available regarding the timeframe that this area was operated for baling operations or the specific building structures used. Based on the nature of the operations conducted, the types of chemicals typically utilized during these operations, the potential use/presence of below grade pits, the timeframe these operations occurred, and the potential to impact the subsurface, the former Main Manufacturing Building balers were considered an AOI.

3.19.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB75-11 was advanced in this area. A soil sample was collected from 1 to 3 ft bgs for analysis of TCL VOCs, PAHs, Site-specific TAL metals, and PCBs; however, refusal was encountered at 6 ft bgs due to the presence of concrete. It is possible that SB75-11 was installed within the former baler pit. Based on the review of historical drawings and noted dimensions of the baler pits, SB264-13 was advanced in the area of SB75-11 at a location believed to be outside the former pit, and two soil samples were collected, one from the interval below the anticipated bottom of the former pit (6 to 7 ft bgs) presented on historical drawings and one from immediately above the water table (20 to 22 ft bgs). The samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.19.1.

3.19.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.19.2 AOI 15.2 – Former Baler House

3.19.2.1 Historical Operations

A former Baler House was located between Columns C and H, Rows 42 to 44. Scrap metal was conveyed to the former Baler House via an underground conveyor system, which was located between Columns E and F. This Baler House was demolished during the 1964 expansion activities, with the current Baler House constructed in 1965. Based on the nature of the operations conducted, the types of chemicals typically utilized during these operations, the potential use/presence of below grade pits, the timeframe these operations occurred, and the potential to impact the subsurface, the former Baler House was considered an AOI.

3.19.2.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB76-11 was advanced in this area; however, refusal was encountered due to the thickness of concrete in this area. The presence of the subsurface basement in this area restricted access for sample collection in this AOI.

3.19.2.3 Current Status and Conclusions

Based on the location of the former Baler House over the basement of the more recent plant expansion, it is likely that all soil in this area was relocated during the construction of the basement. Therefore, no additional action related to this AOI is necessary.

3.19.3 AOI 15.3 – Former Baler House (most recent)

3.19.3.1 Historical Operations

A Baler House was located to the south of the Main Manufacturing Building, adjacent to the west of the Power House. The Baler House was constructed in 1965 and consisted of four balers for scrap metal processing, which were set in below grade concrete pits. Significant oil staining and scrap metal were observed in the visually accessible portions of the Baler House pits during the Site inspection. Additionally, a sump was located in the corner of the building, which discharged through below grade piping to the former WWTP. Based on the age of the pits, the types of chemicals typically utilized during these operations, the timeframe these operations occurred, and the potential to impact the subsurface, the Baler House pits were considered an AOI.

3.19.3.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB78-11 and SB79-11 were advanced near the baler house. Two soil samples were collected from SB78-11 at 1 to 3 ft bgs and 16 to 18 ft bgs. Two soil samples were collected from SB79-11 at 1 to 3 ft bgs and 16.5 to 18.5 ft bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The results did not indicate any exceedance of Part 201 Criteria; however, due to on-going demolition activities access was limited and additional soil borings could not be completed.

During the 2012 Stage III Site-Wide Investigation two soil borings were advanced inside of the former baler house footprint. Two soil samples were collected from SB197-12 at 0 to 2 feet bgs and 11 to 13 feet bgs. Two samples were also collected from SB198-12 at the same depths. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, Site-specific TAL metals, and PCBs. A groundwater sample was also collected from SB197-12 through the borehole drill rods utilizing a stainless steel screen and expendable screen point and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals (dissolved).

In support of redevelopment activities and on the behalf of the WBRA, SME completed investigation and delineation of the SVIAC exceedance present in the 11 to 13 feet bgs sample collected from SB197-12. Four soil borings were advanced in the former baler house. Soil boring SME SB197-12A was advanced in the original location of SB197-12; however, a sample could not be collected from the 11 to 13 feet bgs interval due to drilling difficulties encountered with a buried foundation above

the sample interval. Therefore, a sample was collected from 13 to 14 feet bgs in this location. Soil borings SME SB197-12A1 through SME SB197-12A3 were advanced around SB197-12 to delineate the impacts present in the 11 to 13 feet bgs interval. The soil samples were analyzed for TCE only. The results did not indicate any exceedances of the SVIAC.

The soil sample analytical results from all locations in this area did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.19.3. Temporary monitoring well sample analytical results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.19.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.20 AOI 16 – Former Heat Treat Operations

3.20.1 AOI 16.1 –Main Manufacturing Building – Area No. 1

3.20.1.1 Historical Operations

Heat treat operations were conducted in a variety of locations throughout the Site. A former Heat Treat Room was located near Column O, Row 4 on a 1936 drawing. This area was identified to consist of a "homo" furnace utilized to homogenize the gas mixture prior to heat treating, oven furnaces, lead and cyanide pots, quenching tanks, a caustic tank, and a forge. Floor drains, a pit and a trench were identified in this area. No further information was available regarding the timeframe that heat treat operations were conducted in this area.

3.20.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB80-11 was advanced in this area. Two soil samples were collected from 1 to 3 feet bgs and 20 to 22 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.20.1.

3.20.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.20.2 AOI 16.2 –Main Manufacturing Building – Area No. 2

3.20.2.1 Historical Operations

A former Heat Treat area was located between Columns U and W, Rows 26 and 27 on a 1944 drawing. This drawing identifies a large quench pit in this area, with four tanks shown in the pit and at least one 12,000-gallon oil tank.

3.20.2.2 Previous Investigations and Remedial Actions

SB81-11 was advanced in this area during the initial Site-Wide Investigation and a sample was collected from 2 to 3 feet bgs and analyzed for TCL VOCs, PAHs, Site-Specific TAL metals, and PCBs. No exceedances of Part 201 Criteria were present in the sample collected; however, refusal was encountered at approximately 9.8 feet bgs. A 1944 drawing indicates that the pit was designed to be 9.8 feet deep. It is likely that SB81-11 was installed within the former pit. A dark brown to black sand was also discovered at 9.0 feet bgs. To further evaluate this area, SB265-13 was advanced at a location believed to be outside of the former pit, and two soil samples were collected, one from the interval below the anticipated bottom of the former pit (5 to 6 feet bgs after taking into account the change in grade in this area following demolition and regrading activities completed in 2012) presented on historical drawings and one from immediately above the water table (14 to 15 feet bgs). An additional boring, SB266-13, was installed within the former pit to collect a sample of the dark brown to black sand interval encountered at 9.0 feet bgs. Samples collected from both borings were submitted for laboratory analysis of TCL VOCs, PAHs, PCBs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.20.2.

3.20.2.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.20.3 AOI 16.3 –Former Heat Treat Building No. 1

3.20.3.1 Historical Operations

A former Heat Treat Building was located between Columns J through M, Rows 29 to 30 1/2 on a 1945 drawing. This area was identified to consist of a sand blast room, gas crackers and furnaces and associated pits. No further information was available regarding the timeframe that heat treat operations were conducted in this area; however, this area is currently beneath an addition to the Main Manufacturing Building that was constructed in 1950.

3.20.3.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB82-11 was advanced in this area. Two soil samples were collected from 0 to 2 feet bgs and 20 to 22 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.20.3.

3.20.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.20.4 AOI 16.4 –Former Heat Treat Building No. 2

3.20.4.1 Historical Operations

A former Heat Treat Building was located to the south of the Main Manufacturing Building and the former Baler House in a 1955 drawing; however, no rows or columns were present on available drawings. It is estimated that this structure was located from approximately Columns H to 0, Rows 45 to 50. No further information was available regarding the timeframe that heat treat operations were conducted in this area. Based on the review of available historical aerial photographs, it is not present on the 1960 aerial photograph and it is currently beneath an addition to the former Main Manufacturing Building that was built in 1986.

3.20.4.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB83-11 was advanced in this area. Two soil samples were collected from 0 to 2 feet bgs and 17 to 19 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.20.4.

3.20.4.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.21 AOI 17 – Former Tool and Die Operations

3.21.1 AOI 17.1 –Main Manufacturing Building Operations

3.21.1.1 Historical Operations

Tool and Die Operations (TDO) were conducted between Columns AA and O, Rows 1 to 11. A below grade grinding swarf and chip conveyor system is present in this area, running east west, then turning southward until Column AA, Row 11 to 12, where the materials were brought aboveground and placed in a gondola. A small heat treat area was also present in this area. Historical operations in this area also included an electrical discharge machine (EDM) and milling operations. The swarf and conveyor system was not intended to transfer hazardous materials and there was no information or evidence indicating a release.

3.21.1.2 Previous Investigations and Remedial Actions

During the initial Site Wide Investigation, various PAHs were detected in SB84-11 at concentrations above the Nonresidential DCC in the soil sample collected from 3 to 5 feet bgs. Based on these exceedances, four additional soil borings (SB137-11 through SB140-11) were advanced and soil samples collected for laboratory analysis for TCL VOCS, PAHs, PCBs, and Site-specific TAL metals to further evaluate the extent of contamination in this area. The additional delineation samples did not indicate evidence of impacts above the DCC. This area was subsequently excavated for disposal during Site demolition activities. The details of the excavation and verification sample

results are presented in the memorandum Summary of Sampling and Remedial Action Activities – 2011 and 2012 as referenced in Section 3.1.

Three additional soil borings (SB85A-11, SB86-11, and SB87-11) were advance in this area during the initial Site-Wide Investigation. Two soil samples were collected from SB85A-11 at 0 to 2 feet bgs and 19-21 feet bgs. Two soil samples were collected from SB86-11 at 0 to 2 feet bgs and 20 to 22 feet bgs. Two soil samples were also collected from SB87-11 at 0 to 2 feet bgs and 18 to 20 feet bgs. The soil samples were collected for laboratory analysis for VOCS, PAHs, PCBs, and Site-specific TAL metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.21.1.

3.21.1.3 Current Status and Conclusions

Based on the results of the investigation and remedial action discussed above, no additional action related to this AOI is necessary.

3.21.2 AOI 17.2 – Historical Exterior Die Storage

Historical Operations

Based on discussions with Site personnel, dies and scrap metal roll-offs were historically stored outside the facility, primarily on the southern portion. This area was not and is not entirely paved. The potential exists for oils on the dies to impact the underlying soils or stormwater during exterior storage. PCBs have been detected on stamping and TDO equipment utilized within the facility. There was no information or evidence of a release of materials associated with the storage.

Previous Investigations and Remedial Actions

Three soil borings (SB88-11, SB89-11, and SB90-11) were advance in this area during the initial Site-Wide Investigation. Two soil samples were collected from the 0 to 2 feet bgs and 12 to 14 feet bgs interval in each soil boring. The soil samples were collected for laboratory analysis for VOCS, PAHs, PCBs, and Site-specific TAL metals. A groundwater sample was also collected from SB88-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). The groundwater sample results exhibited a concentration of PCE that exceeded the Part 201 Residential and Nonresidential DWC. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.21.2. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

3.21.2.1 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.22 AOI 18 – Former Coolant Recovery System

3.22.1 Historical Operations

Based on the review of a 1953 drawing, a coolant recovery and chip disposal system, including sterilizer, was present between Columns Y to W, Rows 49 to 50. No further information regarding the system was available. There was no information or evidence indicating a release from the coolant system.

3.22.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB91-11 was advanced in this area. Two soil samples were collected from at 20 to 22 feet bgs and 17 to 19 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.22.

3.22.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.23 AOI 19 – Former Stamping Operations

3.23.1 Historical Operations

Blanking and stamping press operations were conducted between Columns AA and O, Rows 12 to 55. A basement and metal scrap conveyor is located beneath this area, which leads to the most recently used Baler House. Stamping operations utilize oils and may have utilized solvents during operations. Review of available drawings indicates the presence of numerous tanks, likely containing hydraulic oil for the presses, located in pits beneath the presses throughout the blanking area. The tanks were identified to primarily consist of 4-foot by 8-foot tanks on a concrete. These tanks are identified on a 1939 drawing of the area with Press Lines E, F, G, H, J and K, which are located between Columns C and K, Rows 13 to 22.

3.23.2 Previous Investigations and Remedial Actions

Significant staining and pooled oil were noted on the ground surface in the basement near the stamping operations and in visually accessible below grade concrete press pits. Additionally, oil was observed to be present on the walls of the basement areas, from the stamping operations on the first floor of the facility.

During the initial Site-Wide Investigation seven soil borings were advanced in this area. Two soil samples were collected from SB92-11 at 0 to 2 feet bgs and 17 to 19 feet bgs. Two soil samples were collected from SB93-11 at 0 to 2 feet bgs and 16 to 18 feet bgs. Two soil samples were collected from SB94-11 at 0 to 2 feet bgs and 16 to 18 feet bgs. Two soil samples were collected from SB96-11 at 0 to 2 feet bgs and 20 to 22 feet bgs. Two soil samples were collected from

SB97-11 at 0 to 2 feet bgs and 20 to 22 feet bgs. Two soil samples were collected from SB98-11 at 0 to 2 feet bgs and 20 to 22 feet bgs. Two soil samples were collected from SB99-11 at 0 to 2 feet bgs and 20 to 22 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.23.

3.23.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.24 AOI 20 – Above Ground Storage Tanks (ASTs)

According to Site personnel and based on a review of available information, several non-regulated ASTs supported operations at the Site. ASTs present a potential for a release to the environment if the integrity of the AST is compromised causing a leak or, if a release occurs during periods of tank filling and/or dispensing. Each of the Site's registered and non-regulated ASTs was, therefore, considered an AOI as discussed below, with the exception of the ASTs associated with the WWTP, Power House, and Stormwater Retention Pond, which are discussed in their respective sections.

3.24.1 AOI 20.1 Oil Stores ASTs

3.24.1.1 Historical Operations

Five ASTs were present in the Oil Stores area inside of the Main Manufacturing building. The ASTs included the following: one 6,000-gallon single-walled fiberglass AST that formerly contained steam cleaner; two 9,700-gallon single-walled steel ASTs that formerly contained different weights of motor oil; one 6,000-gallon single-walled steel AST that formerly contained reclaimed oil; and one 6,000-gallon single-walled steel AST that formerly contained used oil. The tanks were located inside of a secondary containment area. No significant staining was noted in the visibly accessible areas around the ASTs at the time of the Site inspection, and the concrete appeared to be in good condition.

3.24.1.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the Oil Stores ASTs other than removal of the tanks and the associated concrete floor and containment structure by the WBRA during decommissioning and demolition activities.

3.24.1.3 Current Status and Conclusions

Based on evidence that the concrete below the Oil Stores ASTs appeared to be in good condition and there was no evidence of staining; therefore, no additional action related to this AOI is necessary.

3.24.2 AOI 20.2 – South Pump House AST

3.24.2.1 Historical Operations

One 400-gallon steel diesel fuel AST was located in the South Pump House, as fuel for a back-up generator. No significant staining was noted in the visibly accessible areas around the AST at the time of the Site inspection, and the concrete appeared to be in good condition.

3.24.2.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the South Pump House AST other than removal of the AST and associated concrete floor by the WBRA during decommissioning and demolition activities.

3.24.2.3 Current Status and Conclusions

Based on the nature of chemicals stored in the South Pump House AST, it was considered an AOI. Based on evidence that the concrete below the South Pump House AST appeared to be in good condition and there was no evidence of staining; therefore, no additional action related to this AOI is necessary.

3.24.3 AOI 20.3 – Former North Pump House AST

3.24.3.1 Historical Operations

One 500-gallon steel diesel fuel AST was formerly located in the North Pump House, as fuel for a back-up generator. No significant staining was noted in the visibly accessible areas around the AST at the time of the Site inspection, and the concrete appeared to be in good condition.

3.24.3.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the North Pump House AST.

3.24.3.3 Current Status and Conclusions

Based on the nature of chemicals formerly stored in the North Pump House AST, it was considered an AOI. Based on evidence that the concrete below the North Pump House AST location appeared to be in good condition and there was no evidence of staining; therefore, no additional action related to this AOI is necessary.

3.24.4 AOI 20.4 – Cooling Tower Pump House AST

3.24.4.1 Historical Operations

One 900-gallon steel diesel fuel AST was located in the Cooling Tower Pump House. No significant staining was noted in the visibly accessible areas around the AST at the time of the Site inspection, and the concrete appeared to be in good condition.

3.24.4.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the Cooling Tower Pump House AST.

3.24.4.3 Current Status and Conclusions

Based on the nature of chemicals stored in the Cooling Tower Pump House AST, it was considered an AOI. Based on evidence that the concrete below the Cooling Tower Pump House AST appeared to be in good condition prior to removal by the WBRA during decommissioning activities, and there was no evidence of staining; therefore, no additional action related to this AOI is necessary.

3.24.5 AOI 20.5 – Former Bulk Deadener AST

3.24.5.1 Historical Operations

According to MDEQ records reviewed, one 4,000 gallon AST containing bulk deadener was historically located in the "bulk deadener storage area" (P-51). Deadener was applied to parts through spray application to reduce the automobile's interior noise levels. The AST was identified in Permit to Install No. 20-78 issued February 28, 1978. No further information was available regarding the AST.

3.24.5.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the former Bulk Deadener AST.

3.24.5.3 Current Status and Conclusions

Based on the nature of chemicals stored in the former bulk deadener AST, it is considered an AOI. Based on evidence that the concrete below the former bulk deadener AST appeared to be in good condition and there was no evidence of staining; therefore, no additional action related to this AOI is necessary.

3.25 AOI 21 – Substations

3.25.1 Historical Operations

Electricity was provided on Site by the following substations:

- Roof Top Substations: Substations D, E, G, J, L, N, O, P, S, T, U, W, X, Y, and Z (Main Manufacturing Building) and Substations H and Q (Power House Substation)
- Basement Substations: Substations B, C, F, K, M and V (Main Manufacturing Building)
- Ground Floor Substations: Substation R (Baler House)

No information was available regarding the potential historical presence of Substations A or I on the Site. These substations may have been associated with a former Site structure (i.e., former Power House, etc.); however, that could not be confirmed.

Based on the above, each of the substations is identified as sub-AOIs, as listed below:

- AOI 21.1 – Substation B
- AOI 21.2 – Substation C
- AOI 21.3 – Substation D
- AOI 21.4 – Substation E
- AOI 21.5 – Substation F
- AOI 21.6 – Substation G
- AOI 21.7 – Substation H
- AOI 21.8 – Substation J
- AOI 21.9 – Substation K
- AOI 21.10 – Substation L
- AOI 21.11 – Substation M
- AOI 21.12 – Substation N
- AOI 21.13 – Substation O
- AOI 21.14 – Substation P
- AOI 21.15 – Substation Q
- AOI 21.16 – Substation R
- AOI 21.17 – Substation S
- AOI 21.18 – Substation T
- AOI 21.19 – Substation U
- AOI 21.20 – Substation V
- AOI 21.21 – Substation W
- AOI 21.22 – Substation X
- AOI 21.23 – Substation Y
- AOI 21.24 – Substation Z

Potential issues associated with the Roof Top Substations (Substations D, E, G, H, J, L, N, O, P, Q, S, T, U, W, X, Y, and Z) are related to potential stormwater impacts and are addressed under AOIs 22 and 35; therefore, these Substations are not discussed in this section.

Based on the review of available documentation, three substations at the Site were confirmed to have utilized PCB electrical equipment; Substation K, Substation H and Substation Q. Releases are documented associated with Substation K, which was also historically utilized as a PCB storage area. Staining was noted on the concrete surface in these substations. It should be noted that the concrete floor in a number of the substations was painted. Transformers in all of the Site

substations were gas-filled; however, the manufacture dates indicated the potential for the most recently used transformers to be replacement transformers. Labeled PCB large capacitors were observed in Substations B and E during the Site inspection. No specific information is available regarding the potential for additional PCB electrical equipment currently or historically present in the electrical equipment in the substations at the Site or releases there from.

The concrete floor slab in basement Substation K was identified during decommissioning activities to be impacted with PCBs at a concentration above 1 part per million (ppm). Substation K was documented to have historically utilized electrical equipment containing PCB dielectric fluid, was historically utilized as a PCB storage area, and had historical releases from the equipment.

3.25.2 Previous Investigations and Remedial Actions

Consistent with the requirements of TSCA, SME conducted delineation activities on behalf of the WBRA related to the PCB detections in concrete. Based on the detections of PCBs, an approximate 1 to 2-foot thick layer of concrete was removed from the floor slab in the northeastern corner of the former substation. Analytical results for remediation verification concrete core samples collected subsequent to the removal of the upper portion of the slab indicated that PCBs were present in the concrete at concentrations above 1 ppm. Based on the analytical results, removal and disposal of the entire thickness of the concrete in this area was selected to address the detections of PCBs in the concrete.

Based on the unknown concentration of PCBs in the concrete at the bottom of the slab that was removed (i.e., the portion of the slab immediately overlying the below soil), on May 4, 2012, CRA collected two soil samples (Substation K 1 and Substation K 2) from the underlying soil beneath the northern and southern portions of the removed slab, respectively, to evaluate the potential presence of PCBs in the soil at concentrations above 1 ppm. The soil samples were submitted to the analytical laboratory for analysis of PCBs.

The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. PCBs were not detected in the soil sample above 1 ppm. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.25.

3.25.3 Current Status and Conclusions

Further assessment of this AOI after SME's remediation of Substation K indicates that no release of PCB-containing oil to the underlying soils had occurred. Therefore, no additional action related to this AOI is necessary.

3.26 AOI 22 – Stormwater Retention Pond

3.26.1 Historical Operations

Based on files reviewed at the former plant, the stormwater retention basin was originally constructed in 1972 on property owned by Consumers, for which GMC secured an easement agreement. The basin was reported to be lined with a rubber liner and equipped with two containment booms that diverted floating oil to a skimmer installed in the basin outlet. Oil was pumped from the skimmer to a 4,000-gallon AST located adjacent to the west of basin, which has

been removed as a result of redevelopment of the Site by Kendall Electric, Inc. Significant sediment accumulation and vegetation growth were observed in the retention basin during an inspection in 2001, which resulted in upgrades to the pond in 2002/2003. The pond upgrades included removal and disposal of accumulated sediment and the former rubber liner material. Based on the review of available documentation, the stormwater retention pond received discharges from portions of the Site roof and foundation drains, and historically also received discharges from non-contact cooling water and the groundwater treatment system. Roof drains were observed in proximity to several caged (i.e., no roofs or walls) substations, including Substations H and Q located on the roof of the Power House that historically were documented to include PCB transformers. No information was identified that the liner on the pond had failed prior to the upgrades or has failed subsequent to the upgrades.

Additionally, a stormwater lift station is located on the southwestern portion of the property, which historically pumped stormwater to a gravity discharge line that lead to the stormwater retention pond. The lift station pumps are currently not in use; however, the main discharge line from the lift station continues to convey stormwater to the retention pond from other gravity-fed cross connections on-Site. The stormwater pond historically discharged to Cole Drain under a NPDES permit. Permit effluent monitoring and sampling were discussed in further detail in the CCR.

3.26.2 Previous Investigations and Remedial Actions

Prior to removal and disposal of the accumulated sediment and liner materials, sediment samples were collected from the retention pond in September 2002 and analyzed for waste characterization parameters, which indicated detections of several metals. Current conditions associated with groundwater and soil beneath and in the vicinity of the pond are unknown.

3.26.3 Current Status and Conclusions

Based on metals detected in waste characterization samples and the presence of PCB transformers located near roof drains that eventually discharged to the stormwater retention pond during sediment removal/liner replacement, the timeframe these operations occurred, and the potential to impact the subsurface, the stormwater retention pond was considered an AOI. AOI 22 is located off-Site, accordingly, AOI 22 is not addressed as part of this NFA.

3.27 AOI 23 – Wood Floor Block

3.27.1 Historical Operations

Based on the review of available documentation and observations during the Site inspection, wood floor block was historically present throughout the facility. Operations that have been identified to have utilized oils containing PCBs were conducted at the Site.

3.27.2 Previous Investigations and Remedial Actions

Analytical results for samples collected from wood floor block and associated mastic materials have indicated the presence of PCBs in the materials.

3.27.3 Current Status and Conclusions

Based on the known spillage of oils to the flooring material at the Site, and detections and use of PCBs in oils utilized and wood flooring material removed from the Site in the past, the potential presence of PCBs in wood flooring material at the Site was considered an AOI. Further assessment of this AOI was recommended during building decommissioning and demolition activities and all wood flooring was removed during demolition. Observations during the decommissioning and demolition activities did not indicate any potential releases to the subsurface related to wood floor block. Therefore, no additional action related to this AOI is necessary.

3.28 AOI 24 – Former Tar House

3.28.1 Historical Operations

Based on the review of documentation from 1978, a "tar house", which was used to heat tar for floor block repairs, was located south of the Main Manufacturing Building near the Storm Sewer Pump House at that time. No further information regarding the tar house was available. No information was identified regarding operations in the Tar House or any evidence of releases there from.

3.28.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB100-11 was advanced in the approximate location of the former Tar House. Soil samples were collected for chemical analysis from the 0.5 to 2.5 feet bgs interval immediately beneath a concrete slab and from the 8-10 feet bgs interval. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. Based on the analytical results, PCBs were detected in the soil sample collected from 0.5 to 2.5 feet bgs from SB100-11 at a concentration of 3.3 mg/kg.

Based on the detection of PCBs above 1 mg/kg in the shallow soil sample collected from SB100-11, five additional soil borings were advanced in September 2011 (SB162-11 through SB166-11). Four soil borings (SB162-11 through SB165-11) were advanced on 3 meter (approximately 10 feet) spacing directly to the north, south, east, and west of SB100-11, and one soil boring (SB166-11) was advanced adjacent to SB100-11 to evaluate the vertical and horizontal PCB impacts consistent with 40 CFR 761 Subpart N "Cleanup Site Characterization Sampling for PCB Remediation Waste in Accordance with §761.61(a)(2)." Soil samples were collected for chemical analysis for PCBs in 2-foot intervals beginning immediately beneath the concrete slab and continuing to approximately 10 feet bgs. Soil samples collected from the interval immediately beneath the concrete slab were analyzed by the laboratory, with the underlying 2-foot interval samples placed on hold at the laboratory pending receipt of the initial analysis for the known impacted interval. Based on the analytical results, PCBs were detected in samples collected from SB165-11 (at 0 to 2 ft bgs, 2 to 4 ft bgs, and 4 to 6 ft bgs) and SB166-11 (at 0 to 2 ft bgs and 2 to 4 ft bgs) at concentrations above 1 mg/kg.

Based on the results of the September 2011 investigation, eight soil borings (SB200-12 through SB206-12, and SB215-12) were advanced in October 2012. Five soil borings (SB202-12 through SB206-12) were advanced on 3 meter (10-foot) spacing to the northwest, west, southwest, and south of SB165-11 to further evaluate the vertical and horizontal extent of impacts. An additional

boring (SB215-12) was advanced adjacent to SB165-11 to further evaluate the vertical extent of impacts in this area. Two soil borings SB200-12 and SB201-12 were advanced on a 3 meter (10-foot) spacing to the northeast and southeast of SB166-11 to further evaluate the vertical and horizontal extent of impacts. Soil samples were collected from each boring for chemical analysis for PCBs in 2-foot intervals beginning immediately beneath the concrete slab and continuing to approximately 10 ft bgs. Based on the analytical results, PCBs were detected in a sample collected from SB203 12 (at 8 to 10 ft bgs) at a concentration above 1 mg/kg.

Based on the results of the October 2012 investigation, eight soil borings (SB223-13 through SB230-13) were advanced in April 2013. Seven soil borings (SB224-14 through SB230-13) were advanced on 3 meter (10 foot) spacing to the north, east, southeast, south, southwest, west, and northwest of SB203-12 to further evaluate the vertical and horizontal extent of impacts. One soil boring (SB223-13) was advanced adjacent to SB203-12 in order to confirm the original result and collect samples at deeper intervals. Based on the analytical results, PCBs were detected in samples collected from SB223-13 (at 8 to 10 ft bgs and 10 to 12 ft bgs), SB224-13 (at 10 to 12 ft bgs), SB225 13 (at 10 to 12 ft bgs), SB226-13 (at 6 to 8 ft bgs), SB227-13 (at 4 to 6 ft bgs, 6 to 8 ft bgs, and 8 to 10 ft bgs), and SB228-13 (at 2 to 4 ft bgs) at concentrations above 1 mg/kg.

Based on the results of the April 2013 investigation, the decision was made to modify the delineation approach presented in 40 CFR 761 Subpart N "Cleanup Site Characterization Sampling for PCB Remediation Waste in Accordance with §761.61(a)(2)" in order to reduce the number of samples necessary to characterize the PCB contamination in this area. 40 CFR 761 Subpart N identifies the utilization of a 3 meter (10-foot) spacing grid for the collection of characterization samples; this Plan proposes the use of an approximate 6 meter (20-foot) spacing grid for the collection of characterization samples, depending on Site conditions encountered. The rationale behind this modification is that the extent of soil removal associated with the former Tar House Area will ultimately be determined by verification soil sampling, which will be performed in accordance with 40 CFR 761 Subpart O "Sampling to Verify Completion of Self Implementing Cleanup and On Site Disposal of Bulk PCB Remediation Waste and Porous Surfaces," to the extent necessary to achieve the proposed clean up goals.

Based on the above outlined approach, in August 2013 eight soil borings (SB255-13 through SB262-13) were advanced to the north, northeast, east, southeast, south, southwest, west, and northwest of the area of previous investigations at an approximate spacing of 10 to 20 feet beyond the outermost delineation grid boring. Soil samples were collected from immediately beneath the concrete slab/asphalt road to just above the water table (approximately 14 to 16 ft bgs). Samples were collected in 2-foot intervals and all samples were analyzed by the analytical laboratory. Based on the analytical results, PCBs were not detected in any of the samples collected at a concentration above 1 mg/kg.

A Risk-Based PCB Cleanup Plan was prepared for the former Tar House and Bulk Unload Areas and submitted to the U.S. EPA – Region 5, the MDEQ, and the Kent County Health Department (KCHD) on August 26, 2014 in accordance with the procedures set forth in 40 CFR 761.61 of the TSCA regarding the characterization and remediation of PCB remediation waste. Following U.S. EPA review of the Risk-based Plan, it was determined by U.S. EPA that the proposed cleanup could be completed under the self-implementing cleanup guidelines for bulk PCB remediation waste specified under 40 CFR 761.61(a). Additionally, U.S. EPA requested that the surface materials

(concrete and asphalt) be characterized according to self-implementing cleanup guidelines. The proposed porous surface sampling plan, results of sampling, and RACER's intention to complete the self-implementing cleanup were included in two separate addendum letters submitted to U.S. EPA. Approval to complete the self-implementing cleanup was received from U.S. EPA on March 30, 2015.

The bulk PCB remediation waste removal activities were conducted between June 26, 2015 and July 28, 2015. Soils containing concentrations of PCBs greater than 10 ppm were excavated using a hydraulic excavator to a depth of approximately 5 ft bgs. A total of approximately 170 tons of soil containing PCBs were removed from the former Tar House Area. A total of approximately 26 tons of concrete overlying the soil was also removed. All soils and concrete were transported to and disposed of at Waste Management, Inc.'s (WM) Autumn Hills Landfill in Zeeland, Michigan, in accordance with 40 CFR 761.61(a)(5).

The details of the remedial excavation are presented in the Soil Containing PCB Cleanup Completion Summary Report submitted to U.S. EPA, MDEQ, and the KCHD on November 13, 2015.

3.28.3 Current Status and Conclusions

Based on the results of the remedial activities discussed above and the Low Occupancy Area designation presented in the RC, no additional action related to this AOI is necessary.

3.29 AOI 25 – Former Maintenance Degreaser

3.29.1 Historical Operations

A former degreaser was operated in the maintenance shop at Column T, Row 27 from 1953 to 1979. According to Site personnel, this degreaser was an open top metal tank situated in a concrete pit, where equipment was dipped using an overhead crane.

3.29.2 Previous Investigations and Remedial Actions

The Site is listed in the SHWS Database as General Motors – CPC Metals (Facility Identification No. 41000115) and a status of "interim response in progress." The listing is primarily associated with a release of TCE from the former degreaser. VOC-impacts to soil and groundwater in this area were identified in 1985 and investigations were conducted between 1985 and 1989 to evaluate the nature and extent of the impacts at the Site and the adjacent properties to the north of the Site. In 1989, a combination groundwater extraction and SVE system was installed in the source area in the plant, with quarterly groundwater monitoring conducted. In 1993, a second groundwater purge well was installed at the northern property line. The SVE and groundwater extraction systems were run with quarterly groundwater monitoring occurring until 2004 and 2005, respectively, when it was identified that the systems had removed significant VOC mass and were no longer effectively removing additional VOC mass. Additional investigations to further evaluate the extent of the groundwater impacts to Part 201 Criteria were conducted between 2003 and 2010. Response actions associated with the VOC impacts have been conducted on a voluntary basis under Part 201.

3.29.2.1 Additional Soil Investigation – 2014

Demolition activities conducted in 2011 and 2012 on behalf of the WBRA prompted the removal of the Main Manufacturing Building and associated concrete floor slab overlying AOI 25. After completion of demolition activities, the Site was re-graded by WBRA's contractor. The final grade across the Site is presented on a partial as-built survey provided by WBRA and is included in Appendix C.

3.29.2.2 Historical Sample Location Survey

A limited survey of historical sample locations was completed prior to commencement of soil investigation activities. Eight historical sample locations (SB1-04, SB2-04, SB4-04, SB5-04, SB7-05, SB8-05, SB12-05, and SB15-05) in the area of AOI 25 were located during the survey and the current ground surface elevations were recorded. The current ground elevations were compared to historical survey elevation data for several sample locations in AOI 25 to determine the change in elevation after demolition of the former Main Manufacturing Building, removal of the concrete floor slab, and final Site re-grading.

3.29.2.3 Soil Investigation Activities

In order to evaluate the current concentrations of VOCs in the former source area subsequent to demolition and re-grading activities, three soil borings (SB326-14 through SB328-14) were advanced with a hand auger adjacent to historic sample locations to a depth of 4 feet bgs. Soil samples were collected in 2-foot intervals for laboratory analysis of TCL VOCs. The details of results of this investigation were submitted to the MDEQ in the memorandum titled AOI 25 – Former Degreaser Area Investigation as identified in Section 3.1.

3.29.2.4 Groundwater Investigation Activities

Based on the location of the former degreaser utilized in AOI 25 and previous sample results of MW35-12 and MW41-12 indicating detections of 1,1,1-TCA below Part 201 GRCC, groundwater samples were collected from monitoring wells MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.29.3 COC Temporal Trends in Groundwater

Groundwater sampling at the Site has occurred at varying frequencies at different monitoring wells since 1985. One of the lines of evidence considered in evaluation is the presence or absence of trends in concentrations over time for groundwater COCs. In particular, stable or decreasing trends are looked to as indictors that natural attenuation is occurring. Additionally, the occurrence of transitional increasing trends of degradation products may also provide evidence that supports MNA. The available VOC data were examined and a qualitative evaluation was performed. This consisted of an examination of concentration versus time graphs for the monitoring wells where sufficient data were available.

3.29.3.1 Concentration Trend Analysis

Examination of the concentration versus time for the source monitoring wells indicates that the concentrations of the various VOCs have been stable or decreasing over time. The VOC concentrations in the source area wells (e.g., MW35-12 and MW37-12) indicate an apparent short-term increasing concentration trends after removal of the building slab. The most recently measured concentrations remain in the range of previous concentrations indicate the increasing trend in the source area has since stabilized.

In spite of the above-noted localized and previous short-term increasing concentration trends, the limit of the VOC plume has decreased over time suggesting a shrinking plume scenario. For example, TCE concentrations at peripheral and off-Site monitoring wells have decreased to below residential DWC or to non-detect values from higher concentrations in the past.

3.29.3.2 Summary

The evaluation of COC trends was conducted to assess the stability of the groundwater plume at the Site. The trend evaluation has shown that for the most part there is no measurable change in the COC concentrations. In the source monitoring wells, some increasing trends are observed, especially over the most recent data. It is expected to see transitional increases of degradation products in source areas where degradation of the parent compounds is occurring.

However, increasing trends were not noted in the downgradient wells. Either no trends were observed or the COCs were non-detect or trace level detections. This confirms that the groundwater plume is stable or receding.

3.29.4 COC Spatial Trends

The COC concentrations for a given time period were found to decrease along the groundwater flow path. Evaluation of the monitoring well network and the COC concentrations over distance and space indicate that the COC plume is fully delineated upgradient, downgradient and laterally, such that no COCs exceed Part 201 Criteria in the peripheral monitoring wells to the south, north, northwest and northeast. Figure 3.5 presents a depiction of the plume extent based on results from the April 2017 semi-annual groundwater monitoring event.

3.29.5 Current Status and Conclusions

Based on the known exceedances of the Part 201 Criteria associated with the chlorinated VOC impacts to soil and groundwater at the Site, the VOC-impacted soil and groundwater associated with the former degreaser was considered an AOI. However, the restrictions on groundwater use that exist in the current RC prevent any potential exposure; therefore, no additional action related to this AOI is necessary.

3.30 AOI 26 – Additional Former Degreasing Operations

3.30.1 AOI 26.1 – Shell Cooler After Degreaser

3.30.1.1 Historical Operations

An area identified as "shell cooler after degreaser" was present on a 1944 drawing between Columns V and W, Row 34. No further information was available regarding the former degreaser.

3.30.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB102-11 was advanced in this area. Two soil samples were collected at 1 to 3 feet bgs and 19 to 21 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB102-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.30.1. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

Based on the location of the shell cooler after degreaser utilized in AOI 26.1 and previous sample results of MW35-12 and MW41-12 indicating detections of 1,1,1-TCA below Part 201 GRCC, groundwater samples were collected from monitoring wells MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.30.1.3 Current Status and Conclusions

Results of the samples collected in this area did not exhibit any exceedances of Part 201 Criteria. Therefore, no additional action related to this AOI is necessary.

3.30.2 AOI 26.2 – Former Degreaser (U-46)

3.30.2.1 Historical Operations

A degreaser is identified on a 1953 drawing at Column U, Row 46. No further information was available regarding the former degreaser.

3.30.2.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB103-11 was advanced in this area. Three soil samples were collected at 0 to 2 feet bgs, 2 to 4 feet bgs, and 19 to 21 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The sample collected from 2 to 4 feet bgs exhibited a concentration of TCE that exceeded the residential and Nonresidential DWPC.

Based on the location of the former degreaser utilized in AOI 26.2 and previous sample results of MW35-12 and MW41-12 indicating detections of 1,1,1-TCA below Part 201 GRCC, groundwater samples were collected from monitoring wells MW 32-12, MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.30.2.3 Current Status and Conclusions

A RC is currently in place at the Site that restricts the use of groundwater as a drinking water source. Therefore, no additional action related to this AOI is necessary.

3.30.3 AOI 26.3 – Former Degreaser (RS-9)

3.30.3.1 Historical Operations

A degreaser was historically located at Columns R to S, Row 9. No further information was available regarding the former degreaser.

3.30.3.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB104-11 was advanced in this area. Two soil samples were collected at 1 to 3 feet bgs and 20 to 22 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB104-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). The groundwater sample results indicated a concentration of TCE that exceeded the Residential and Nonresidential DWC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.30.3. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

Based on the location of the former degreaser utilized in AOI 26.3 and previous sample results of MW35-12 and MW41-12 indicating detections of 1,1,1-TCA below Part 201 GRCC, groundwater samples were collected from monitoring wells MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.30.3.3 Current Status and Conclusions

Results of the soil samples collected in this area did not exhibit any exceedances of Part 201 Criteria. The detection of TCE in the groundwater sample is likely related to impacts associated with a separate AOI. Therefore, no additional action related to this AOI is necessary.

3.30.4 AOI 26.4 – Former Degreaser (O-44)

3.30.4.1 Historical Operations

A degreaser was historically located at Column O, Row 44. No further information was available regarding the former degreaser.

3.30.4.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB105-11 was advanced in this area. Two soil samples were collected at 1 to 3 feet bgs and 17.5 to 19.5 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB105-11 after the installation of a 1-inch diameter PVC screen and riser and submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, and Site-specific TAL metals (dissolved). Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.30.4. Temporary monitoring well sample results compared to Part 201 Criteria are presented in Table 3.2. Refer to Figure 3.2 for sample locations.

Based on the location of the former degreaser utilized in AOI 26.4 and previous sample results of MW35-12 and MW41-12 indicating detections of 1,1,1-TCA below Part 201 GRCC, groundwater

samples were collected from monitoring wells MW 31-12, MW35-12, MW41-12, and MW60-14 and submitted to the analytical laboratory for analysis of 1,4-dioxane. The results did not indicate an exceedance of the 1,4-dioxane DWC established pursuant to the Rule package, Cleanup Criteria Requirements for Response Activity, criteria specific to the Residential DWC that was promulgated on October 20, 2017. A summary of the sampling is presented in Appendix E.

3.30.4.3 Current Status and Conclusions

Results of the samples collected in this area did not exhibit any exceedances of Part 201 Criteria. Therefore, no additional action related to this AOI is necessary.

3.31 AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)

3.31.1 Historical Operations

The Site formerly utilized the area to the west of Oil Stores for the bulk unloading of petroleum products. This area included exterior load/unload fill ports and associated concrete pad, sump, and containment trench.

3.31.2 Previous Investigations and Remedial Actions

The containment trench in this area was installed in 2004. During the installation of the containment trench, excavated materials were identified to have exceeded the TCLP for lead. Subsequently, investigations were conducted in this area in 2005 through 2014 to evaluate the nature and extent of impacts. The investigations in the bulk unload area near the current Oil Stores area have identified the presence of metals, VOCs, and PAHs at concentrations above the Part 201 Criteria in soil and PCBs at a concentration above the High Occupancy Area Cleanup Level of

1 ppm/1 mg/kg for bulk remediation waste (without further conditions) set forth in 40 CFR 761.61(a) of the TSCA regarding the characterization and remediation of PCB remediation waste. The details of the bulk PCB remediation waste removal activities are discussed further in Section 3.31.2.1 below.

An Excavation Work Plan submitted to the MDEQ, and approved on March 12, 2015, outlined the details of the delineation, waste characterization, and remediation scope-of-work developed to remove and dispose of soil exhibiting exceedances of Nonresidential DCC and Nonresidential PSIC. Modifications to the original scope of work (SOW) presented in the Work Plan were submitted to MDEQ via email on May 13, 2015 and subsequently approved on May 26, 2015. The original Work Plan included the removal of soils impacted above the Nonresidential DCC and Nonresidential PSIC to a depth of 4 feet bgs. The implementation of this SOW would have left some Nonresidential DCC and Nonresidential PSIC exceedances at deeper depths in the Zc and Bulk Unload Areas between 4 and 8 feet bgs, which were anticipated at the time to be addressed via a RC. The modifications included in the email request related to the Bulk Unload Area are outlined below:

- In the Bulk Unload Area, SB107-11 had PAHs above the Nonresidential DCC and chromium (total) above the Nonresidential PSIC at 4 to 6 feet bgs. RACER proposed to remove this material.
- In the Bulk Unload Area, SB109-11 had PAHs above the Nonresidential DCC at 4 to 6 feet bgs. RACER proposed to remove this material.
- In the Bulk Unload Area, SB21-05 had lead above the Nonresidential DCC and chromium (total) above the Nonresidential PSIC. RACER proposed to remove this material and conduct verification sampling consistent with the procedures in the Work Plan. Additionally, SB21-05 had chromium (total) above the Nonresidential PSIC at 6 to 8 feet bgs. RACER proposed to collect a sample of this material for chromium speciation to confirm if the exceedance remained. If speciation indicated that there was no issue/criteria exceedance, the material would remain. If speciation indicated that an exceedance was present, an evaluation would be made to determine if the material would remain and be addressed through a RC, or be removed and verification sampling conducted consistent with the procedures in the Work Plan.
- In the Bulk Unload Area, SB40-10 had PAHs above the Nonresidential DCC at 4 to 8 feet bgs. RACER proposed to remove this material.
- In the Bulk Unload Area, SB35-10 had lead and PAHs above the Nonresidential DCC at 4 to 6 feet bgs. RACER proposed to remove this material.
- In the Bulk Unload Area, SB27-07 had arsenic above the Nonresidential DCC at 4 to 6 feet bgs. RACER proposed to remove this material.
- In the Bulk Unload Area, SB28-07 had lead above the Nonresidential DCC, and chromium (total) and manganese above the Nonresidential PSIC at 4 to 6 feet bgs. RACER proposed to remove this material.
- Verification sampling would be conducted for only the parameters for which the original exceedance of the Nonresidential DCC or Nonresidential PSIC was identified, for example, if only lead exceeded these criteria in a given location, only lead would be analyzed in the

verification sample(s). This was not identified specifically in the Work Plan. Procedurally, sampling would be conducted in accordance with the Work Plan.

- The Work Plan indicated that the portion of the excavation that failed an in-situ characterization TCLP for lead would be removed and disposed of as hazardous soil. During the bidding process, Terra Contracting (Terra), the excavation contractor, identified a cost effective alternative that included the stabilization of the lead-impacted soils in this area to reduce the concentrations to levels that would allow the material to be disposed of as non-hazardous at a Type II landfill. Verification samples to confirm that the material is below the TCLP limit for lead would be collected from the material prior to removal from the excavation, and verification sidewall samples would be collected to confirm that the extent of the potentially hazardous material had been adequately delineated.

3.31.2.1 Bulk Unload Area Remedial Excavation – Summer 2015

On June 22, 2015, GHD and Terra mobilized to the Site to commence soil removal in the multiple areas on-Site, including the Bulk Unload Area. Site mobilization activities included a private utility scan conducted by a GPR subcontractor, mobilization of equipment and supplies, excavation area demarcation, and concrete saw cutting to expose the soil beneath the Bulk Unload Area.

The area of lead-impacted soil that exhibited TCLP results above 5.0 mg/L lead, classifying the soil as RCRA characteristic hazardous waste, was treated with a stabilization agent by Terra. The stabilization agent, Blastox-215©, consisted of silicate and calcium oxide compounds that, once completely mixed with the lead-impacted soil, is designed to stabilize the soluble lead compounds present in soil and prevent them from leaching above the RCRA characteristic waste limits during the TCLP. This stabilizing method alleviated the requirement to dispose of the soil at a RCRA hazardous waste landfill. Prior to soil stabilization with the use of an excavator bucket, sidewall samples were collected from this area (for TCLP analysis) and submitted to analytical laboratory to confirm that no additional soil stabilization was required. The results of the TCLP samples indicated that no additional soil stabilization was necessary. On June 25, 2015, Terra mixed the stabilization agent with the soil in the Bulk Unload Area and collected a composite TCLP sample for lead to confirm that the stabilized soil would not leach lead above the 5.0 mg/L limit. The results of the sampling indicated that the stabilized soil was no longer a characteristic hazardous waste and disposal could be completed at a Type II solid waste landfill. On July 6 and July 7, 2015, approximately 273 tons the stabilized soil and debris was excavated and transported to WM's Autumn Hills Landfill in Zeeland, Michigan. Verification sample results are presented in Table 3.31. The location of verification samples and the extent and depth of the excavation area are presented on Figure 3.6.

Between July 8 and July 10, 2015, approximately 1,000 tons of non-hazardous soil and debris, that included bricks, concrete, metal turnings, slag, metal debris, and other miscellaneous refuse was excavated for disposal. Verification samples were collected from the 0 to 4-foot and 0 to 6-foot sidewalls of the southern portions of the excavation area on July 13, 2015. Four sidewall samples were also collected from the 6 to 8-foot excavation area. Results of the verification sample analyses exhibited concentrations in several locations that exceeded the Nonresidential DCC and/or the Nonresidential PSIC. Additional excavation of the 6 to 8-foot excavation area, the western portion of

the excavation near SB109-11, and the 4 to 6-foot area at sample location “W Sidewall -006” was necessary.

During excavation activities an 8-inch water main was discovered aligned north to south through the center of the excavation area approximately 4 feet bgs. Through coordination with the City of Wyoming and review of historical Site information it was determined that the water main was likely abandoned. A “hot tap” was performed by a licensed plumber to confirm that there was no pressure in the water main and it was abandoned. Approval was received from the City of Wyoming to remove portions of the water main in the excavation area and install blind flanges at both ends of the disconnected line.

Between July 14 and July 15, 2015, approximately 470 tons of non-hazardous soil and debris was excavated and transported for disposal. On July 17, 2015 eight additional verification samples were collected from the 0 to 4-foot sidewalls around the anticipated excavation boundary. Results of the sample analyses did not indicate any exceedances of Nonresidential DCC or Nonresidential PSIC.

Additional excavation of approximately 190 tons of non-hazardous soil and debris was conducted between July 21 and July 22, 2015. Portions of the 8-inch water main in the excavation area were also removed and blind flanges were installed on the remaining water main ends. During excavation an area of black and dark gray soil exhibiting a strong weathered petroleum odor was discovered in the southwest portion of the excavation near the water main. A sample of the material was screened with a PID but no significant readings were measured. A soil sample (Stained soil w/ Petroleum Odor - SW Excavation Floor) was collected and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals. The results of the sample analysis did not indicate any exceedances of Nonresidential DCC or Nonresidential PSIC. The collection of 12 sidewall verification samples was completed during this time. The results of several sample analyses exhibited concentrations exceeding Nonresidential DCC and/or Nonresidential PSIC. Additional excavation of the 4 to 6-foot sidewalls was necessary.

Backfilling activities commenced concurrently with excavation for disposal in areas where no additional excavation was required. Backfilling included the placement of a demarcation layer on the floor of the excavation consisting of non-woven geotextile. A demarcation layer consisting of orange safety fence was also placed on the sidewalls of the excavation boundary. The excavation was backfilled with general fill in 1 to 2-foot lifts and compacted with a vibratory roller. Field compaction testing was completed between each lift to confirm the fill had a minimum of 95% of the maximum modified Proctor density.

Prior to additional excavation, sidewall samples were collected utilizing an excavator bucket on July 24, 2015 at locations where the additional excavation was anticipated to extend to. Results of the three samples indicated that additional excavation was necessary to remove soil to the west of sample location “W Sidewall -038”. The additional excavation of approximately 108 tons of non-hazardous soil and debris in the northern excavation area was completed on July 27, 2015 and the three additional sidewall samples collected did not exhibit exceedances of Nonresidential DCC or Nonresidential PSIC.

Excavation of approximately 86 tons of non-hazardous soil and debris near SB107-11 was completed on July 29, 2015. Four sidewall excavation samples were collected on July 29, 2015. Results of the sample analyses indicated exceedances of Nonresidential DCC.

During excavation activities, the 8-inch water main previously encountered was present on the north sidewall of the excavation. Removal of additional soil to the east and south of SB107-11 required removal of an additional section of the water main and relocation of the blind flange to the northern end of the excavation. The final locations of the blind flanges were surveyed prior to backfilling. During additional concrete removal and water main removal a seam of potential asbestos-containing material (ACM) including insulation materials and vermiculite was observed in the northeast corner of this excavation area. Multiple samples of the PACM/soil mixture were collected for analysis by polarized light microscopy (PLM) and transmission electron microscopy (TEM) to determine if the soil in this area contained a regulated ACM. The results indicated that none of the samples collected exceeded the Part 201 criteria (1% total ACM).

Between August 4 and August 6, 2015 additional excavation of approximately 344 tons of non-hazardous soil and debris located to the west, east, and south of SB107-11 was completed until the excavation extended south and west to the Bulk Unload Area excavation boundary and no additional south sidewall on the south or west side remained present to sample. Three sidewall verification samples were collected from the remaining sidewalls to the north and east. The results of the sample analyses did not indicate any exceedances of Nonresidential DCC or Nonresidential PSIC and no additional excavation was required. Figure 3.6 presents the extent and depth of the excavation area and the results of the final sidewall verification samples. Copies of the analytical laboratory reports are provided in Appendix D and in the Soil Containing PCB Cleanup Completion Summary Report prepared by GHD dated November 13, 2015. The remainder of the Bulk Unload Area was backfilled as described above and then covered with a 6-inch layer of compacted gravel and surfaced with 2 inches of asphalt pavement extended to the previously existing concrete and asphalt surfaces on the excavation boundary.

3.31.2.2 PCB Area Excavation

On June 25 and 26, 2015, a total of approximately 354 tons of asphalt, soil, and debris were removed from the former Bulk Unload Area. All soils were transported to and disposed of at WM's Autumn Hills Landfill in Zeeland, Michigan, in accordance with 40 CFR §761.61(a)(5). During excavation activities, a former concrete fence footer was discovered approximately 1-foot bgs adjacent to the existing fence on the property line. Additionally, a concrete storm sewer was discovered directly underneath the former concrete fence footer. The storm sewer was determined to be connected to the existing outfall at the northwest corner of the Site. An inspection of the interior of the storm sewer was completed and the pipe was found to be clean of any debris and dry. In an effort to preserve the existing storm sewer, soil was not removed underneath the sewer line and verification samples collected along the western sidewall were collected directly underneath the sewer line.

Results of verification sampling indicated that soils remaining in the floor and west sidewall (under the existing storm sewer) of the excavation contained PCBs at concentrations greater than the 10 ppm cleanup level. Additionally, an area in the northern portion of the excavation contained soils with a PCB concentration greater than 50 ppm requiring disposal at a TSCA-approved disposal

facility. RACER notified U.S. EPA on July 13, 2015 that soil containing PCBs at a concentration above 50 ppm was discovered and would be disposed of in accordance with TSCA.

On July 28, 2015 approximately 33 tons of TSCA-regulated soil and debris were excavated, loaded into a lined truck, and transported for disposal at the Wayne Disposal, Inc. landfill in Belleville, Michigan operated by US Ecology. Additionally, approximately 21 tons of non-TSCA soil and debris (including a portion of the existing concrete storm sewer) was removed from the western sidewall and southern excavation floor for disposal at WM's Autumn Hills Landfill.

Additional verification sampling indicated that the remaining concentrations of PCBs were below the 10 ppm cleanup level, with the exception of a small area underneath the existing storm sewer in the southwest corner of the excavation. The soil underlying the storm sewer in this area was removed by hand digging in order to preserve the existing storm sewer on the south side of the manhole. The soil was removed and containerized into two 55-gallon drums prior to the drums being emptied, crushed, and loaded with additional asphalt debris into a truck for disposal at WM's Autumn Hills Landfill on August 4, 2015. Verification samples collected underneath the existing storm sewer and fence footer indicated that PCB concentrations were below the 10 ppm cleanup level. The details of the remedial excavation are presented in the *Soil Containing PCB Cleanup Completion Summary Report* submitted to U.S. EPA, MDEQ, and the KCHD on November 13, 2015.

3.31.3 Current Status and Conclusions

Based on the results of the remedial activities and the Low Occupancy restriction for this area, no additional action related to this AOI is necessary.

3.32 AOI 28 – Additional Bulk Load and Unload Areas

3.32.1 Historical Operations

Several areas at the Site were formerly utilized for bulk unloading and loading of petroleum products and waste and raw materials. These areas included exterior load/unload fill ports and associated concrete pads, as well as former train wells, some of which were unpaved. Some of these areas have been replaced in the recent past; however, others have been in place since the facility was developed. There was no evidence of a release from other bulk load and unload areas at the Site to the environment.

3.32.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding other bulk load and unload areas.

3.32.3 Current Status and Conclusions

This AOI was initially identified in the CCR; however, limited information exists related to the specific locations or activities related to this AOI. Groundwater monitoring conducted at the Site has not identified impacts specifically related to this AOI. Additionally, due to the lack of evidence of a release from other bulk load and unload areas at the Site no additional action related to this AOI is necessary.

3.33 AOI 29 – Former Incinerators

Based on the review of historical drawings, two incinerators were formerly located on the Site, as discussed below.

3.33.1 AOI 29.1 – Former Incinerator Area No. 1

3.33.1.1 Historical Operations

Based on the review of available information, an incinerator was located to the south of the former Power House, to the east of the railroad tracks, and along the western property boundary in a 1954/1955 drawing in line with Row 42 of the former Main Manufacturing Building. It could not be determined from available documentation if these were all the same incinerator; however, available drawings/aerials located them in the same approximate area. No information regarding the nature of the materials burned in the incinerator or construction, operation or demolition dates of the incinerator was available. No additional details regarding the incinerator were available based on scale and quality of aerial images and availability of historical drawings.

3.33.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB112-11 was advanced in this area. Two soil samples were collected at 2 to 4 feet bgs and 12 to 14 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.33.1.

3.33.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.33.2 AOI 29.2 – Former Incinerator Area No. 2

3.33.2.1 Historical Operations

Based on the review of available information, an incinerator was located to the southwest of the former Baler House between Columns H and J, south of Row 40 (numbering did not extend that far south on the drawing). No information regarding the nature of the materials burned in the incinerator or construction, operation or demolition dates of the incinerator was available.

3.33.2.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the former incinerator due to the uncertainty of its actual former location.

3.33.2.3 Current Status and Conclusions

Based on the potential nature of the operations conducted at incinerator, the potential to impact the subsurface, the former incinerator is considered an AOI; however, due to limited information

regarding the location and operation of the incinerator and the lack of any observed evidence of impact in the general area of this incinerator during Site demolition no additional action related to this AOI is necessary.

3.34 AOI 30 – Elevator Pits

Hydraulic elevators were present at the Site. Additionally, one former elevator location was identified by Site personnel. The pits and associated sumps, if present, were not visually evaluated during the Site inspection. Signage observed in one of the elevators indicated that mineral spirits were to be used for lubrication on the chains. No information was available regarding historical releases to the subsurface from the elevator operations.

3.34.1 AOI 30.1 – Passenger Elevator

3.34.1.1 Historical Operations

A passenger elevator was located in the former office area near Column ZB, Row 5. A visual inspection of the pit beneath the elevator could not be conducted during the Site inspection.

3.34.1.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the passenger elevator pit.

3.34.1.3 Current Status and Conclusions

Removal of the elevator pistons was observed during demolition activities on March 7, 2012. No significant staining was noted on the concrete surface of the former elevator pit. No sump was observed to be present in the elevator pit; however, the presence of minor amounts of demolition debris limited a complete observation of the area. Due to the lack of reports or information regarding historical releases to the subsurface from the elevator operations and no observed evidence of impact related to the elevators during Site demolition and elevator removal, no additional action related to this AOI is necessary.

3.34.2 AOI 30.2 – Freight Elevator No. 1

3.34.2.1 Historical Operations

A freight elevator was located in plant area near Column O, Row 26. A visual inspection of the pit beneath the elevator could not be conducted during the Site inspection.

3.34.2.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the freight elevator pit.

3.34.2.3 Current Status and Conclusions

Removal of the elevator pistons was observed during demolition activities on December 7, 2011. Minor staining was observed on the concrete surface of the elevator shaft located near Column O, Row 26 at the time of removal; however, on-Site representatives indicated that the staining was

from the removal of the piston and was not present prior to removal. Due to the lack of reports or information regarding historical releases to the subsurface from the elevator operations and no observed evidence of impact related to the elevators during Site demolition and elevator removal, no additional action related to this AOI is necessary.

3.34.3 AOI 30.3 – Freight Elevator No. 2

3.34.3.1 Historical Operations

A freight elevator was located in the plant area near Column N, Row 45. A visual inspection of the pit beneath the elevator could not be conducted during the Site inspection.

3.34.3.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the freight elevator pit.

3.34.3.3 Current Status and Conclusions

Removal of the elevator pistons was observed during demolition activities on December 7, 2011. Standing oil was present in the pit of the former freight elevator. Additional oil was released into the concrete pit during the removal of the pistons. All oil was removed from the pit upon completion of piston removal and the pit was cleaned prior to backfilling with crushed stone. No evidence of significant cracks or staining, or a drop in the fluid level within the pit was observed by GHD. Due to the lack of reports or information regarding historical releases to the subsurface from the elevator operations and no observed evidence of impact related to the elevators during Site demolition and elevator removal, no additional action related to this AOI is necessary.

3.34.4 AOI 30.4 – Former Freight Elevator

3.34.4.1 Historical Operations

According to Site personnel, a former freight elevator was located in the plant area near Column S, Row 7. No further information was available.

3.34.4.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the former freight elevator pit.

3.34.4.3 Current Status and Conclusions

Due to the lack of reports or information regarding historical releases to the subsurface from the elevator operations and no observed evidence of impact related to the elevators during Site demolition, no additional action related to this AOI is necessary.

3.35 AOI 31 – Scrap Metal Storage Pad

3.35.1 Historical Operations

The Site utilized a concrete paved area with a trench drain to store dumpsters of scrap metal, which may have contained residual cutting fluids. The trench drain discharged below grade to the WWTP. Significant staining was noted on the concrete surface of the pad; however, the concrete appeared to be in good condition with no significant cracks or deterioration observed. No documentation was available that identified releases in this area that reached the subsurface.

3.35.2 Previous Investigations and Remedial Actions

During the 2012 Stage III Site-Wide Investigation SB213-12 and SB214-12 were advanced near the former scrap metal storage pad. Two soil samples were collected from SB213-12 at 0 to 2 feet bgs and 13 to 15 feet bgs. Two soil samples were collected from SB214-12 at 0 to 2 feet bgs and 12 to 14 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, Site-specific TAL Metals, and PCBs. A groundwater sample was also collected from SB214-12 through the borehole drill rods utilizing a stainless steel screen and expendable screen point and submitted to the analytical laboratory for analysis of TCL VOCs, TCL SVOCs, PCBs, and Site-specific TAL metals (dissolved). The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. The groundwater sample analytical results indicated the presence of PAHs at concentrations exceeding the Water Solubility Limits. In order to confirm or deny the presence of potential LNAPL, a permanent monitoring well (MW57-13) was installed in this location during the 2013 Site-Wide Investigation. Results of monitoring and sampling at MW57-13 have not indicated the presence of LNAPL. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.35. Temporary monitoring well groundwater sample analytical results are included in Table 3.2. Refer to Figure 3.2 for sample locations.

3.35.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.36 AOI 32 – Compactor

3.36.1 Historical Operations

The Site utilized a hydraulic compactor for general refuse. Staining was observed in the general area surrounding the compactor during the Site inspection.

3.36.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB114-11 was advanced in this area. Two soil samples were collected at 1 to 3 feet bgs and 17 to 19 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.36.

3.36.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.37 AOI 33 – Railroad Track Operations

3.37.1 Historical Operations

Railroad tracks were historically located throughout the Site and were historically utilized for the delivery of raw materials and the shipment of finished products. Site personnel were unaware of the nature of historical delivery of chemicals via railcar, and no documented or known releases of chemicals from the rail shipment activities have occurred. Site personnel indicated that no known dust suppression activities have occurred along the railroad tracks at the Site. Additionally, several railroad tracks are present to the west of the main manufacturing portion of the Site, between this area and the Clay Avenue Parking Lot. Railcars currently and historically are parked in this area for extended periods of time. In addition, railroad tracks that historically entered the Main Manufacturing Building were not paved, were lower in elevation than the production floor, and were filled and capped to production floor grade. No information regarding the nature of the fill materials was available. Waste railroad ties were historically stockpiled to the south of the former Main Manufacturing Building, along the eastern property line, on bare ground.

3.37.2 Previous Investigations and Remedial Actions

Six soil borings were advanced around the Site (SB115-11 through SB119-11) during the initial Site-Wide Investigation to evaluate current and historical railroad tracks across the Site. SB115-11 was advanced near the middle of a rail spur that entered the southeast corner of the former Main Manufacturing Building and ran north along the eastern building wall. Two soil samples were collected from 2 to 4 feet bgs and 20 to 22 feet bgs. SB116-11 was advanced approximately where the aforementioned rail spur entered the Main Manufacturing Building at the southeast corner. Two soil samples were collected from 2 to 4 feet bgs and 16 to 18 feet bgs. SB117-11 was advanced near the western wall of the former Main Manufacturing Building approximately in the location of a former railroad spur. Two samples were collected from 1 to 3 feet bgs and 18 to 20 feet bgs. SB118-11 was advanced to the south of the former Main Manufacturing Building entrance for the western rail spur located near the southwest corner of the former building. Two samples were collected from 0 to 2 feet bgs and 12.5 to 14.5 feet bgs. SB119-11 was advanced near the southern railroad spur that ran east in between the WWTP and the former Power House and Baler House. Two samples were collected from 0.5 to 2.5 feet bgs and 12 to 14 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.37.

3.37.3 Current Status and Conclusions

Based on the results of the investigation discussed above and the lack of observations of fill material (during demolition activities) specifically related to railroad operations, no additional action related to this AOI is necessary.

3.38 AOI 34 – Battery Charging Areas

3.38.1 Historical Operations

Satellite battery charging areas were located throughout the facility. Areas of deteriorated concrete, likely caused by battery acid, were observed beneath the battery charging areas; however, the deterioration was not observed to have penetrated the concrete to the subsurface in the visually accessible areas.

3.38.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the battery charging areas.

3.38.3 Current Status and Conclusions

Based on the nature of the operations conducted associated with the battery charging areas, the types of chemicals utilized during these operations and the potential to impact the subsurface, the battery charging areas were considered an AOI. Based on evidence that the concrete below the battery charging areas was intact and there was no evidence of impact to Site soils, no additional action related to this AOI is necessary.

3.39 AOI 35 – Process Infrastructure

3.39.1 Historical Operations

Various additional pits, trenches, and sumps were present throughout the Site. These either discharged to the process wastewater sewer system or were blind. Petroleum, solvent, and acidic products were utilized throughout the facility and staining was noted around several of these areas, as well as deterioration. The integrity of these units could not be determined at the time of the Site inspection due to the below grade construction.

3.39.2 Previous Investigations and Remedial Actions

During demolition and re-grading activities, the building concrete slab was removed and all subsurface structures were removed to a depth of approximately four feet below final grade. Stained or potentially impacted materials that were discovered by MCM were observed by GHD personnel and evaluated on whether or not sampling was required. Details of the sampling and remedial action undertaken during the demolition and re-grading activities is discussed in detail in the memorandum Summary of Sampling and Remedial Action Activities – 2011 and 2012 prepared by CRA as mentioned in Section 3.1.

3.39.3 Current Status and Conclusions

Based on the observations, sampling results, and remedial activities presented in the aforementioned memorandum, no additional action related to this AOI is necessary.

3.40 AOI 36 – Potential On-Site Fill Activities

3.40.1 Historical Operations

Based on the review of a historical aerial photograph taken between 1950 and 1954, an area of potential fill activities was identified to the south of the Main Manufacturing Building. No further information was available regarding the potential on Site fill activities.

3.40.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation three soil borings (SB120-11 through SB122-11) were advanced in this area. One sample was collected from SB120-11 at 1 to 3 feet bgs. Two soil samples were collected from SB121-11 at 1 to 3 ft. bgs and 17 to 19 feet bgs. Two soil samples were also collected from SB122-11 at 1 to 3 feet bgs and 17 to 19 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.40.

3.40.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.41 AOI 37 – Hazardous Waste Storage Areas

Based on review of available records, the Site submitted an initial Notification of Hazardous Waste Activity with U.S. EPA Identification No. MID0060204083 to the U.S. EPA in August 1980. According to the notification, the facility generated, treated, stored or disposed of hazardous wastes F010, F017, U238, and hazardous waste with toxic characteristics. The Site submitted a RCRA Hazardous Waste Part A Permit application to the U.S. EPA in November 1981. The facility reportedly operated various storage areas, as discussed below. It was reported that the treatment tanks and storage area contained only paint related waste (F017). However, it was subsequently determined that F017 listed waste was temporarily suspended from regulation under RCRA. Furthermore, the paint related waste was analyzed for hazardous waste characteristics and deemed nonhazardous. Therefore, in August 1982, GM filed a request for withdrawal of their Part A Permit. Withdrawal of the Part A Permit was approved by the U.S. EPA in a letter dated September 13, 1982 on the basis that wastes treated, stored or disposed at the facility were not defined as hazardous waste.

Hazardous waste was more recently stored for less than 90-days in a caged epoxy-sealed concrete area in the former Main Manufacturing Building, near Zb-13.

3.41.1 AOI 37.1 – Former Hazardous Waste Storage Areas – Main Plant

3.41.1.1 Historical Operations

The facility reportedly operated two hazardous waste treatment tanks inside the main plant building. It was reported that the treatment tanks contained only paint related waste (F017).

3.41.1.2 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation SB124-11 was advanced in this area. Two soil samples were collected at 1 to 3 feet bgs and 17 to 19 feet bgs. The soil samples were submitted to the analytical laboratory for analysis of TCL VOCs, PAHs, Site-specific TAL Metals, and PCBs. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.41.1.

3.41.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.41.2 AOI 37.2 – Former Hazardous Waste Storage Areas – South of WWTP

3.41.2.1 Historical Operations

The facility reportedly operated a zinc primer residue storage area located south of the plant. It was reported that the storage area was utilized for only paint related waste (F017).

3.41.2.2 Previous Investigations and Remedial Actions

SB125-11 was advanced near the former WWTP during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 13 to 15 feet bgs. The soil samples were submitted to the analytical laboratory and analyzed for TCL VOCs, PAHs, PCBs, and Site-specific TAL Metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.41.2.

3.41.2.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.41.3 AOI 37.3 – Former Hazardous Waste Storage Areas – Western Property Boundary

3.41.3.1 Historical Operations

A drawing with the Part A application indicated that drums of zinc primer were historically stored south of the former Main Manufacturing Building, along the western property boundary. It was reported that the storage area was utilized for only paint related waste (F017).

3.41.3.2 Previous Investigations and Remedial Actions

SB126-11 was advanced in this area during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 12.5 to 14.5 feet bgs. The soil samples were submitted to the analytical laboratory and analyzed for TCL VOCs, PAHs, PCBs, and Site-specific TAL Metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.41.3.

3.41.3.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.41.4 AOI 37.4 – Former Hazardous Waste Storage Area (most recent)

3.41.4.1 Historical Operations

Hazardous waste had more recently been stored for less than 90-days in a caged epoxy-sealed concrete area in the former Main Manufacturing Building, near Zb-13. This area had two blind containment sumps. No staining or deterioration was observed on the concrete in this area.

3.41.4.2 Previous Investigations and Remedial Actions

Based on the nature of the operations conducted associated with the former hazardous waste storage area, the types of chemicals utilized during these operations and the potential to impact the subsurface, this area was considered an AOI. However, based on the observed condition of the epoxy sealed concrete in this area, and lack of any recorded release of hazardous waste, it is unlikely that a release of hazardous chemicals to the subsurface would have occurred in this area.

3.41.4.3 Current Status and Conclusions

Based on the observations discussed above, no additional action related to this AOI is necessary.

3.42 AOI 38 – Switch House Operations

The Site has operated two known switch houses throughout the operational timeframe of the facility, which may have historically utilized PCB-containing electrical equipment. These are further discussed below.

3.42.1 AOI 38.1 – Former Switch House

3.42.1.1 Historical Operations

A former Switch House was identified on a 1936 drawing, between Rows 1 and 2 1/2, and was located under the former Main Manufacturing Building. A 4-inch drain tile around the structure that discharged to the storm sewer was shown in the drawing. There were three floor drains in the switch house and these drains discharged to a 3 foot by 3 foot by 4 foot sump that also discharged

to the storm sewer. No information regarding any releases from electrical equipment previously operated in this area was available.

3.42.1.2 Previous Investigations and Remedial Actions

SB127-11 was advanced in the area of the former Switch House during the initial Site-Wide Investigation. Soil samples were collected from 1 to 3 feet bgs and 20 to 22 feet bgs. The soil samples were submitted to the analytical laboratory and analyzed for TCL VOCs, PAHs, PCBs, and Site-specific TAL Metals. The soil sample analytical results did not indicate any exceedance of Nonresidential DCC or Nonresidential PSIC. Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.42.1.

3.42.1.3 Current Status and Conclusions

Based on the results of the investigation discussed above, no additional action related to this AOI is necessary.

3.42.2 AOI 38.2 – Current Switch House

3.42.2.1 Historical Operations

Electricity for the Site is supplied by Consumers, who leases a portion of the Site for a substation and Switch House on the Site. The substation consists of a fenced gravel area with electrical equipment on concrete pads/footings, if appropriate. The electrical equipment in the substation was not observed to be labeled as to PCB content. Access to the Consumers portion of the Switch House, which is shared with the Site, was not available. Floor drains were observed in the Switch House. Staining was noted on the gravel surface beneath one of the transformers in the substation. The Switch House consists of an exterior switch yard, which is a fenced area with gravel paving. The majority of the equipment in the switch yard appeared to be labeled as non PCB. No staining was observed in the switch yard area.

3.42.2.2 Previous Investigations and Remedial Actions

No investigations or remedial actions have been conducted regarding the Switch House.

3.42.2.3 Current Status and Conclusions

Based on the nature of the operations conducted associated with the Switch House, the types of chemicals typically utilized during these operations, the lack of information regarding the exterior historical storage areas, and the potential to impact the subsurface, the Switch House was considered an AOI. However, as the historic and current operator of the Substation, Consumers would be considered responsible for the investigation and potential remediation of any releases related to their operation of the current Switch House. Therefore, no additional action related to this AOI is necessary.

3.43 AOI 39 – PCB Areas

3.43.1 AOI 39.1 – PCB Area No. 1

3.43.1.1 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation, PCBs were identified in a soil sample collected at 1 to 3 feet bgs from SB61-11 at a concentration above the High Occupancy Area Cleanup Level of 1 ppm/1 mg/kg for bulk remediation waste (without further conditions) set forth in 40 CFR 761.61(a) of TSCA regarding the characterization and remediation of PCB remediation waste. Subsequent investigations were conducted in September 2011 and April 2012 to delineate the impacted areas. A Self-Implementing Plan (SIP) was submitted to the U.S. EPA in June 2012 to address investigation and remediation of the areas. The SIP was approved on August 6, 2012. On August 22, 2012, remediation of soil containing PCBs was completed by excavation and transported for off-Site disposal.

3.43.1.2 Current Status and Conclusions

A cleanup completion summary report (referenced in Section 3.1), including a copy of the SIP, was submitted to the U.S. EPA and includes additional details regarding the remediation and verification sample results.

Based on the results of the remedial action discussed in the completion report, no additional action related to this AOI is necessary.

3.43.2 AOI 39.2 – PCB Area No. 2

3.43.2.1 Previous Investigations and Remedial Actions

During the initial Site-Wide Investigation, PCBs were identified in a soil sample collected at 1 to 3 feet bgs from SB124-11 at a concentration above the High Occupancy Area Cleanup Level of 1 ppm/1 mg/kg for bulk remediation waste (without further conditions) set forth in 40 CFR 761.61(a) of TSCA regarding the characterization and remediation of PCB remediation waste. Subsequent investigations were conducted in September 2011 and April 2012 to delineate the impacted areas. A SIP was submitted to the U.S. EPA in June 2012 to address investigation and remediation of the areas. The SIP was approved on August 6, 2012. On August 22, 2012, remediation of soil containing PCBs was completed by excavation and transported for off Site disposal.

3.43.2.2 Current Status and Conclusions

A cleanup completion summary report (referenced in Section 3.1), including a copy of the SIP, was submitted to the U.S. EPA and includes additional details regarding the remediation and verification sample results.

Based on the results of the remedial action discussed in the completion report, no additional action related to this AOI is necessary.

3.44 AOI 40 – On-Site Fill Area (Zc Area)

3.44.1 Historical Operations

On June 16, 2012, an area of visually impacted fill was observed near Column Zc, Row 5.5 to Row 7. This area was located beneath the 1978 addition to the western portion of the former Main Manufacturing Building. Prior to the expansion of the former Main Manufacturing Building, this area historically consisted of former railroad tracks. CRA mobilized to the Site to observe the material and potentially collect samples for laboratory analysis. The material was observed to be comprised of cinders, slag, fly ash, sand, and coal fragments.

3.44.2 Previous Investigations and Remedial Actions

Based on the observed conditions, CRA collected a soil sample (Seam – Zc 5.5 to Zc 7) from the stained material. The soil sample was submitted to the analytical laboratory for analysis of VOCs, SVOCs, PCBs, and Site-specific TAL metals.

Lead was detected above the Nonresidential DCC. Chromium and manganese were detected above the Nonresidential PSIC. Arsenic, barium, cadmium, chromium, cobalt, copper, molybdenum, nickel, silver, zinc, and TCE were detected above the GSIPC. These compounds have not been identified in groundwater samples collected in monitoring wells at concentrations above the GSIC in the immediate vicinity of this area or the Cole Drain.

The extent of this fill material was not completely delineated during regrading activities, as it was not necessary to remove it to meet the on-going redevelopment requirements. The area was further evaluated during implementation of the next stage of the Site Wide Investigation completed in October 2012.

An Excavation Work Plan submitted to the MDEQ, and approved on March 12, 2015, outlined the details of the delineation, waste characterization, and remediation scope-of-work developed to remove and dispose of soil exhibiting exceedances of Nonresidential DCC and Nonresidential PSIC. Modifications to the original scope of work (SOW) presented in the Work Plan were submitted to MDEQ via email on May 13, 2015 and subsequently approved on May 26, 2015. The original Work Plan included the removal of soils impacted above the Nonresidential DCC and Nonresidential PSIC to a depth of 4 feet bgs. The implementation of this SOW would have left some Nonresidential DCC and Nonresidential PSIC exceedances at deeper depths in the Zc and Bulk Unload Areas between 4 and 8 feet bgs, which were anticipated at the time to be addressed via a RC. The modifications included in the email request related to the Zc Area are outlined below:

- In the Zc Area, SB242-13 had lead and PAHs above the Nonresidential DCC, and chromium (total) and manganese above the Nonresidential PSIC at 4 to 6 feet bgs. Additionally, SB242-13 had lead above the Nonresidential DCC, and chromium (total) and manganese above the Nonresidential PSIC at 6 to 8 feet bgs. RACER proposed to remove this material.
- In the Zc Area, SB251-13 had chromium (total) above the Nonresidential PSIC at 4 to 6 feet bgs. RACER proposed to remove this material.

- In the Zc Area, SB299-13 had lead above the Nonresidential DCC, and chromium (total) and manganese above the Nonresidential PSIC at 4 to 8 feet bgs. RACER proposed to remove this material.
- In the Zc Area, SB245-13 had PAHs above the Nonresidential DCC at 4 to 6 feet bgs. RACER proposed to remove this material.

Excavation of contaminated soil present in the Zc area commenced on June 26, 2015. Between June 26 and June 30, 2015, approximately 963 tons of soil and debris were excavated and loaded directly for transportation and disposal. Verification samples were collected from the sidewalls of the excavation and submitted to the analytical laboratory for analysis of PAHs, lead, manganese, and trivalent and hexavalent chromium. Sample results indicated that Nonresidential DCC and Nonresidential PSIC exceedances for metals were still present at two sidewall sample locations and additional excavation would be required.

Between July 7, 2015 and July 9, 2015 approximately 186 tons of additional soil was excavated for disposal from the southwest corner and eastern portion of the excavation area. Three additional sidewall samples were collected and analyzed for the same parameters and the results indicated that all contaminant concentrations were below applicable Nonresidential DCC and Nonresidential PSIC. Results of the final verification sample results and extents of the excavation are presented on Figure 3.7. Copies of the analytical laboratory reports are provided in Appendix D and in the Soil Containing PCB Cleanup Completion Summary Report prepared by GHD dated November 13, 2015. The final excavation extent and depth was surveyed prior to commencing backfilling.

Prior to backfilling, a demarcation layer consisting of non-woven geotextile was placed on the floor of the excavation and orange safety fence was placed on the sidewalls of the excavation. The excavation was backfilled with general fill in 1 to 2-foot lifts and compacted with a vibratory roller. Field compaction testing was completed between each lift to confirm the fill had a minimum of 90% of the maximum modified Proctor density. Following the placement of general fill, a 2-inch layer of gravel was placed over the excavation to restore the area to the previous grade.

3.44.3 Current Status and Conclusions

Based on the results of the remedial excavation activities conducted, a single isolated sample location at SB297-13 from 8 to 10 feet bgs contains a concentration of lead that exceeds the Nonresidential DCC and a concentration of manganese and chromium that exceed the Nonresidential PSIC. The sample location information is included in the current RC (see Figure 3.5) and no additional action related to this AOI is necessary.

4. Current Conditions and Mitigation

Based on the current extent of soil contamination, the applicable criteria/pathways for evaluation discussed in Section 3, and remedial activities completed to date, the following risks related to soil required additional mitigation:

- Nonresidential DCC exceedance at sample location SB195-12
- Nonresidential DCC and PSIC exceedances at sample location SB297-13

The RC identifies these locations and effectively mitigates any potential unacceptable exposure through the restrictions prescribed in the RC.

- Based on the current extent of groundwater contamination, the applicable criteria/pathways for evaluation discussed in Section 3, and remedial activities completed to date, the following risks related to groundwater required additional mitigation:
- Exceedances of Nonresidential DWC at multiple locations on-Site

The RC for the Site restricts the use of groundwater resources at, in, or under the Property and effectively mitigates any potential unacceptable exposure through the restrictions prescribed in the RC.

Soil sample analytical results compared to Part 201 Criteria are presented in Table 3.44.

5. Post-Closure Plan

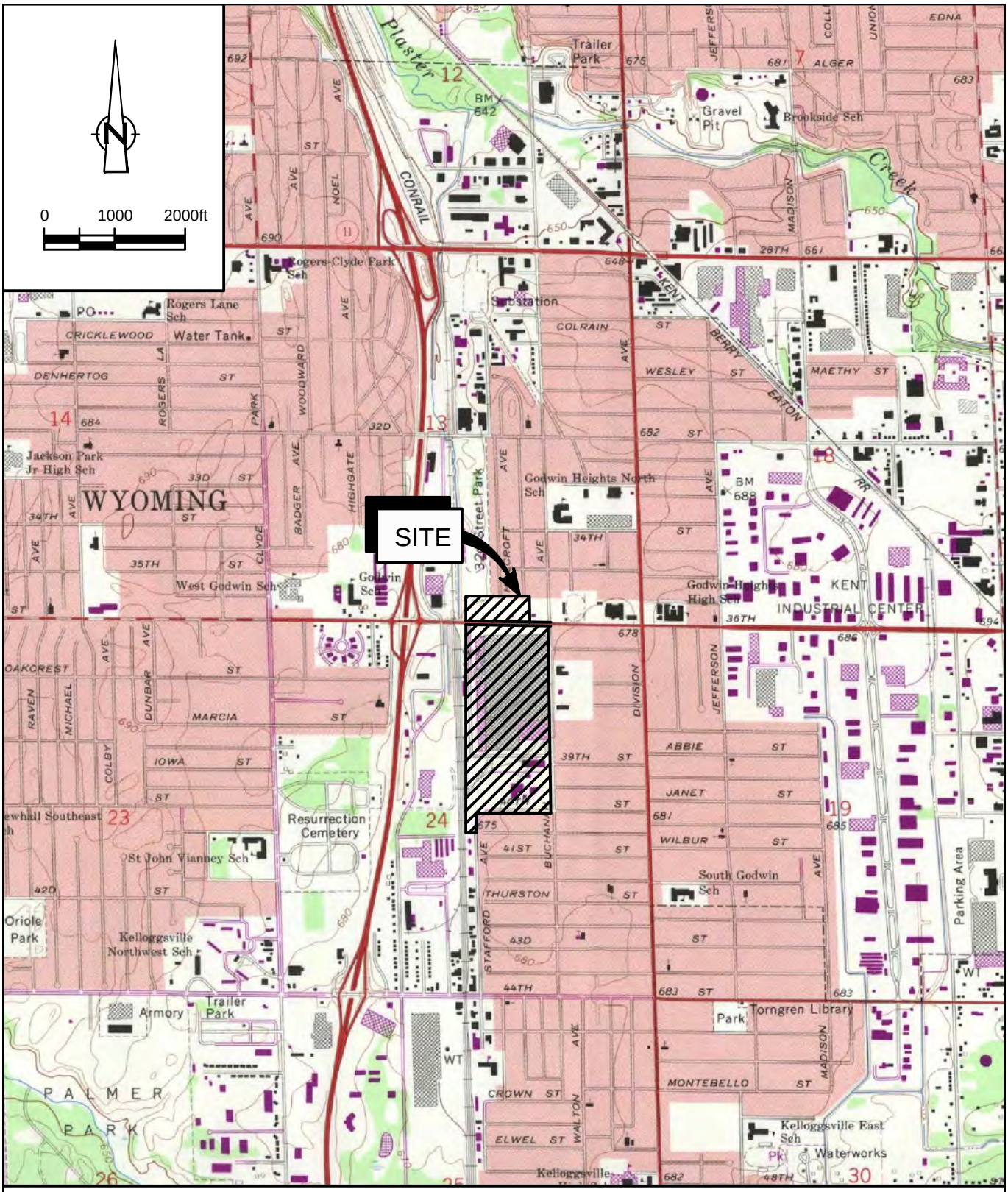
The Post-Closure Plan consists of the DRC, which is presented in Appendix A.

6. References

- Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria, MDEQ, 2002
- Quality Assurance Project Plan, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, 2010
- Current Conditions Report (CCR), Former Grand Rapids Metal Plant, 300 36th Street SW, Wyoming, Michigan, CRA, December 2010
- Site-Wide Investigation Work Plan, Initial Site-Wide Investigation Sample Matrix, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, January 2011
- Data Package, 2011 Site-Wide Investigation, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, June 2011
- Proposed Sample and Excavation Locations (Memorandum), Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, April 2012
- Self-Implementing Plan for the Remediation of PCB-Impacted Soils Pursuant to 40 CFR 761.61(a), Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, June 2012
- Data Package, 2011 Site-Wide Investigation - Stage II, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, July 2012
- Closure Report, Underground Storage Tank No. 6, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, September 2012
- Data Package, 2012 Site-Wide Investigation – Stage III, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, March 2013

- Soil-Containing PCB Cleanup Completion Summary Report, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, May 2013
- Summary of Sampling and Remedial Action Activities – 2011 and 2012, Former Grand rapids Metal Plant, Wyoming, Michigan, CRA , July 2013
- Data Package, 2013 Site-Wide Investigation – Stage IV, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, August 2013
- Data Package, 2013 Site-Wide Investigation – Stage V, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, November 2013
- Data Package, 2013 Site-Wide Investigation – Stage VI, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, February 2014
- Data Package – 2014 Bulk Unload Area Off-Site Investigation and Spring 2014 Semi-Annual Groundwater Monitoring Report – Former Grand Rapids Metal Plant, CRA, August 2014
- Risked-Based PCB Cleanup Plan, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, August 2014
- Summary of Activities – Well Abandonment/Installation and Groundwater Sampling – Former Grand Rapids Metal Plant, CRA, September, 2014
- No Further Action Report, 3838 Clay Ave SW Supplemental Investigation – Former Skimmed Oil AST, Kendall Electric, Inc. Property, Wyoming, Michigan, CRA, October 2014
- AOI 25 – Former Degreaser Area Investigation – Former Grand Rapids Metal Plant, CRA, February 2015
- Remedial Excavation Work Plan, Former Grand Rapids Metal Plant, Wyoming, Michigan, CRA, December 2014
- Soil-Containing PCB Cleanup Completion Summary Report – Former Bulk Unload and Tar House Areas, Former Grand Rapids Metal Plant, Wyoming, Michigan, GHD, November 2015
- Fall 2015 Semi-Annual Groundwater Monitoring Report, GHD, February 8, 2016.
- Spring 2016 Semi-Annual Groundwater Monitoring Report, GHD, July 12, 2016
- Fall 2016 Semi-Annual Groundwater Monitoring Report, GHD, March 30, 2017
- Spring 2017 Semi-Annual Groundwater Monitoring Report, GHD, August 11, 2017

Figures

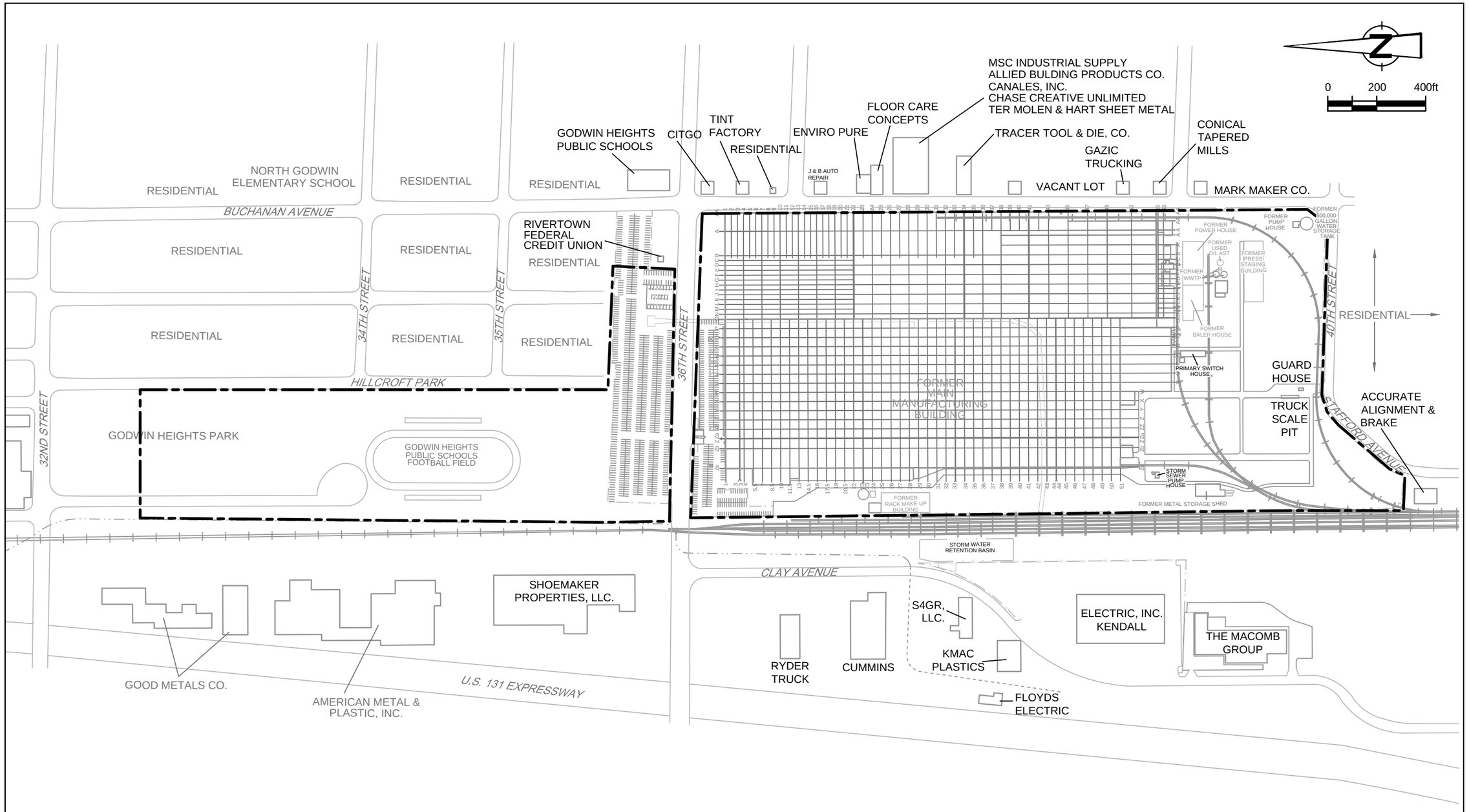


SOURCE: USGS QUADRANGLE MAP;
GRAND RAPIDS WEST, MICHIGAN

figure 1.1

GRAND RAPIDS

SITE LOCATION
NO FURTHER ACTION REPORT
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan



LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- MUNICIPAL STORM SEWER

figure 1.2

FACILITY BOUNDARY
NO FURTHER ACTION REPORT
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

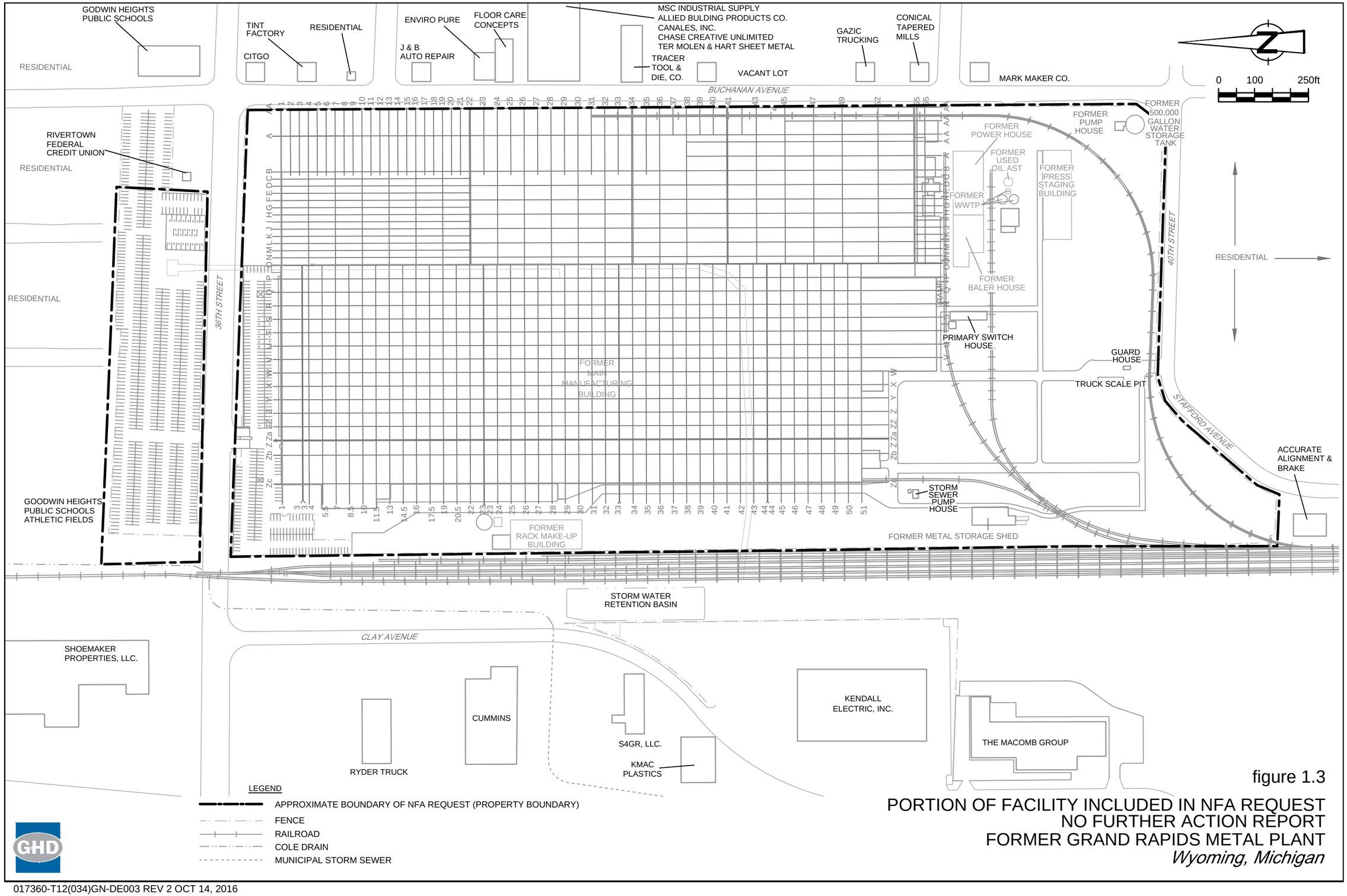


figure 1.3

PORTION OF FACILITY INCLUDED IN NFA REQUEST
NO FURTHER ACTION REPORT
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

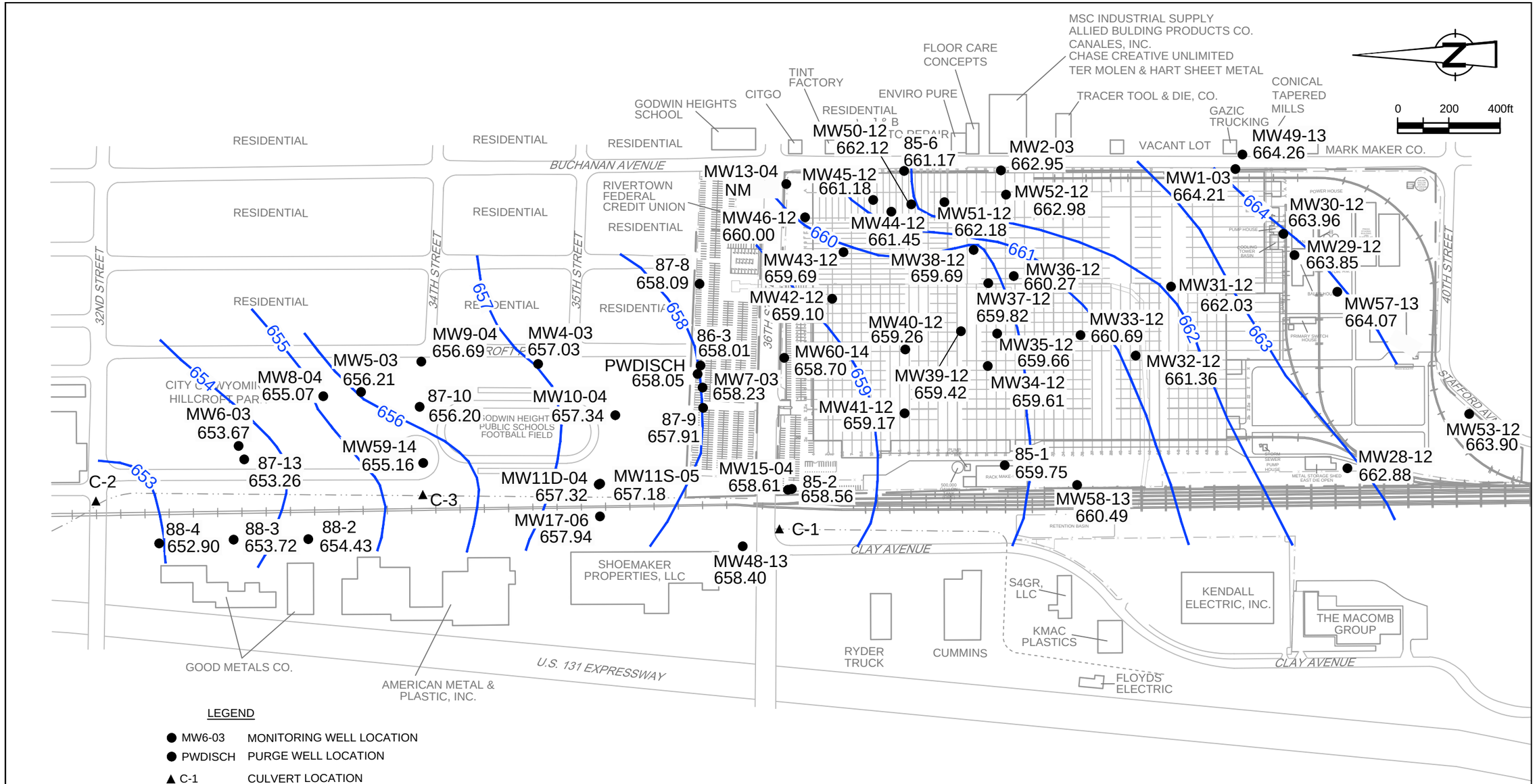
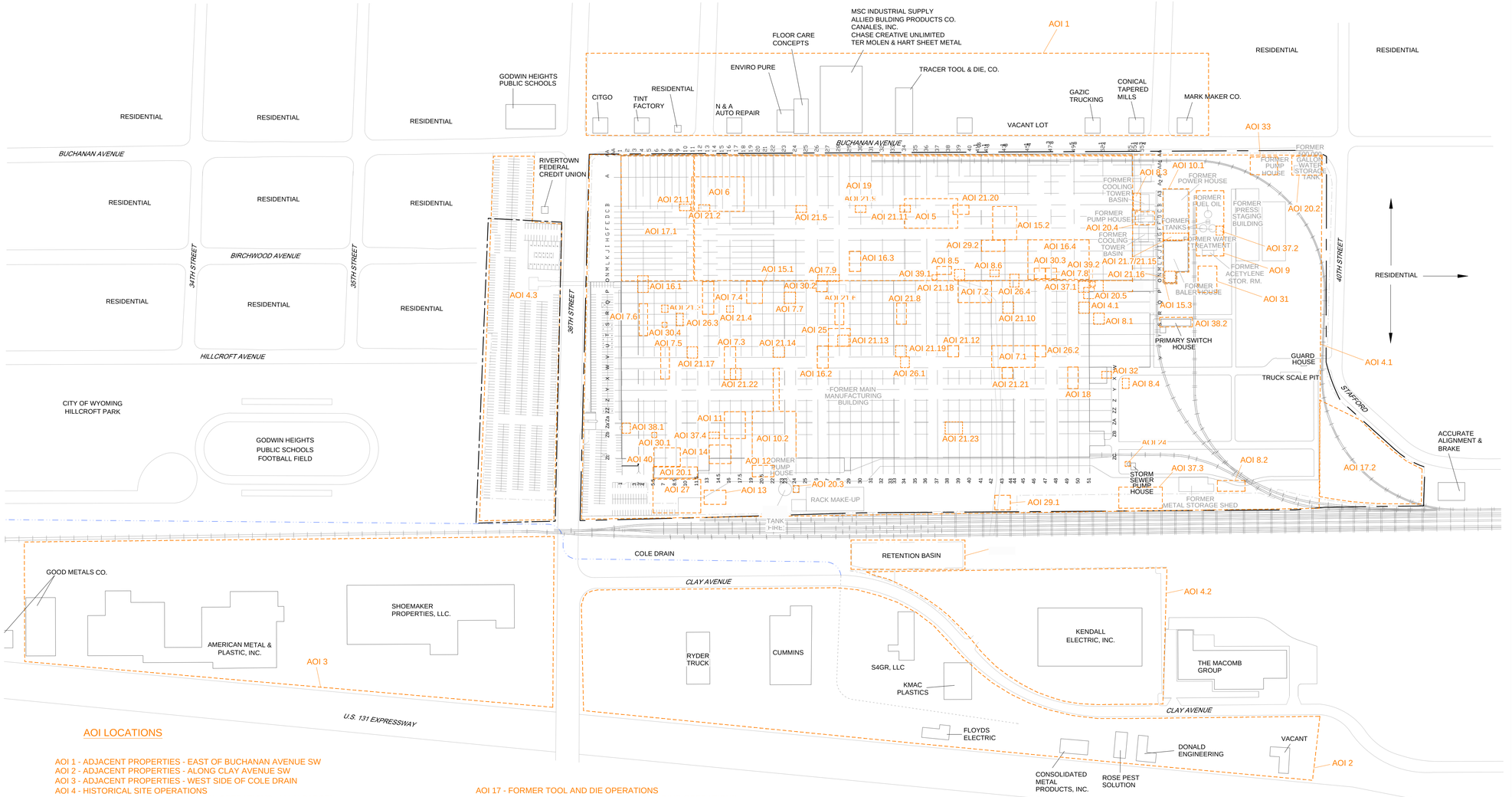


figure 2.1

GROUNDWATER CONTOURS - APRIL 2017
SPRING 2017 SEMI-ANNUAL GROUNDWATER MONITORING
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

GHD

017360-T12(034)GN-DE004 JUL 26, 2017



AOI LOCATIONS

AOI 1 - ADJACENT PROPERTIES - EAST OF BUCHANAN AVENUE SW
AOI 2 - ADJACENT PROPERTIES - ALONG CLAY AVENUE SW
AOI 3 - ADJACENT PROPERTIES - WEST SIDE OF COLE DRAIN
AOI 4 - HISTORICAL SITE OPERATIONS
- AOI 4.1 - LONG-TERM INDUSTRIAL OPERATIONS - MAIN PARCEL
- AOI 4.2 - HISTORICAL OPERATIONS - WESTERN PARCEL
- AOI 4.3 - HISTORICAL OPERATIONS - NORTHERN PARCELS

AOI 5 - RELEASE FROM PRESS HS-5
AOI 6 - LNAPL AND SVOC-IMPACTED GROUNDWATER
AOI 7 - FORMER METAL FINISHING OPERATIONS
- AOI 7.1 - BONDERIZING OPERATIONS
- AOI 7.2 - LACQUER AND CEMENT SPRAY
- AOI 7.3 - ANTI-RUST SPRAY BOOTH NO. 1
- AOI 7.4 - ANTI-RUST SPRAY BOOTH NO. 2
- AOI 7.5 - ANTI-RUST SPRAY BOOTH NO. 3
- AOI 7.6 - ANTI-RUST SPRAY BOOTH NO. 4
- AOI 7.7 - FORMER WEST PAINT BOOTH
- AOI 7.8 - FORMER PAINT BOOTH (CURRENT STEAM CLEAN BOOTH)
- AOI 7.9 - FORMER EAST PAINT BOOTH

AOI 8 - USTS
- AOI 8.1 - FORMER MINERAL SPIRITS AND MINERAL SEAL OIL USTS
- AOI 8.2 - CURRENT GASOLINE AND DIESEL USTS
- AOI 8.3 - FORMER HEATING OIL AND OIL USTS
- AOI 8.4 - FORMER 5,000-GALLON AND 8,000-GALLON GASOLINE USTS
- AOI 8.5 - FORMER 1,000-GALLON GASOLINE UST NO. 1
- AOI 8.6 - FORMER 1,000-GALLON GASOLINE UST NO. 2

AOI 9 - WWTP
AOI 10 - POWER HOUSE OPERATIONS
- AOI 10.1 - CURRENT POWER HOUSE
- AOI 10.2 - FORMER POWER HOUSE

AOI 11 - FORMER AOF HOUSE
AOI 12 - FORMER COOLING TOWER BASIN
AOI 13 - FORMER COOLING WATER SPRAY POND
AOI 14 - FORMER SLUDGE BED
AOI 15 - FORMER BALER OPERATIONS
- AOI 15.1 - FORMER MAIN MANUFACTURING BUILDING BALERS
- AOI 15.2 - FORMER BALER HOUSE
- AOI 15.3 - CURRENT BALER HOUSE

AOI 16 - FORMER HEAT TREAT OPERATIONS
- AOI 16.1 - MAIN MANUFACTURING BUILDING - AREA NO. 1
- AOI 16.2 - MAIN MANUFACTURING BUILDING - AREA NO. 2
- AOI 16.3 - FORMER HEAT TREAT BUILDING NO. 1
- AOI 16.4 - FORMER HEAT TREAT BUILDING NO. 2

AOI 17 - FORMER TOOL AND DIE OPERATIONS
- AOI 17.1 - MAIN MANUFACTURING BUILDING OPERATIONS
- AOI 17.2 - HISTORICAL EXTERIOR DIE STORAGE

AOI 18 - FORMER COOLANT RECOVERY SYSTEM
AOI 19 - FORMER STAMPING OPERATIONS
AOI 20 - ASTS
- AOI 20.1 - OIL STORES ASTS
- AOI 20.2 - CURRENT SOUTH PUMP HOUSE AST
- AOI 20.3 - FORMER PUMP HOUSE AST
- AOI 20.4 - CURRENT COOLING TOWER PUMP HOUSE AST
- AOI 20.5 - FORMER BULK DEADENER AST

AOI 21 - SUBSTATIONS
- AOI 21.1 - SUBSTATION B - BASEMENT
- AOI 21.2 - SUBSTATION C - BASEMENT
- AOI 21.3 - SUBSTATION D - ROOF
- AOI 21.4 - SUBSTATION E - ROOF
- AOI 21.5 - SUBSTATION F - BASEMENT
- AOI 21.6 - SUBSTATION G - ROOF
- AOI 21.7 - SUBSTATION H - ROOF
- AOI 21.8 - SUBSTATION J - ROOF
- AOI 21.9 - SUBSTATION K - BASEMENT
- AOI 21.10 - SUBSTATION L - ROOF
- AOI 21.11 - SUBSTATION M - BASEMENT
- AOI 21.12 - SUBSTATION N - ROOF
- AOI 21.13 - SUBSTATION O - ROOF
- AOI 21.14 - SUBSTATION P - ROOF
- AOI 21.15 - SUBSTATION Q - ROOF
- AOI 21.16 - SUBSTATION R - GROUND
- AOI 21.17 - SUBSTATION S - ROOF
- AOI 21.18 - SUBSTATION T - ROOF
- AOI 21.19 - SUBSTATION U - ROOF
- AOI 21.20 - SUBSTATION V - BASEMENT
- AOI 21.21 - SUBSTATION W - ROOF
- AOI 21.22 - SUBSTATION X - ROOF
- AOI 21.23 - SUBSTATION Y - ROOF
- AOI 21.24 - SUBSTATION Z - ROOF

AOI 22 - STORMWATER RETENTION POND
AOI 23 - WOOD FLOOR BLOCK (VARIES, NOT SHOWN)
AOI 24 - FORMER TAR HOUSE
AOI 25 - FORMER MAINTENANCE DEGREASER
AOI 26 - ADDITIONAL FORMER DEGREASING OPERATIONS
- AOI 26.1 - SHELL COOLER AFTER DEGREASER
- AOI 26.2 - FORMER DEGREASER
- AOI 26.3 - FORMER DEGREASER
- AOI 26.4 - SHELL COOLER AFTER DEGREASER

AOI 27 - OIL STORES BULK UNLOAD AREA
AOI 28 - ADDITIONAL BULK LOAD AND UNLOAD AREAS (VARIES, NOT SHOWN)
AOI 29 - FORMER INCINERATORS
- AOI 29.1 - FORMER INCINERATOR AREA NO. 1
- AOI 29.2 - FORMER INCINERATOR AREA NO. 2

AOI 30 - ELEVATOR PITS
- AOI 30.1 - PASSENGER ELEVATOR
- AOI 30.2 - FREIGHT ELEVATOR NO. 1
- AOI 30.3 - FREIGHT ELEVATOR NO. 2
- AOI 30.4 - FORMER FREIGHT ELEVATOR

AOI 31 - SCRAP METAL STORAGE PAD
AOI 32 - COMPACTOR
AOI 33 - RAILROAD TRACK OPERATIONS
AOI 34 - BATTERY CHARGING AREAS (VARIES, NOT SHOWN)
AOI 35 - PROCESS INFRASTRUCTURE (VARIES, NOT SHOWN)
AOI 36 - POTENTIAL ON-SITE FILL ACTIVITIES (NOT SHOWN)
AOI 37 - HAZARDOUS WASTE STORAGE AREAS
- AOI 37.1 - FORMER HAZ WASTE STORAGE AREA - MAIN PLANT
- AOI 37.2 - FORMER HAZ WASTE STORAGE AREA - SOUTH OF WWTP
- AOI 37.3 - FORMER HAZ WASTE STORAGE AREA - WESTERN PROPERTY BOUNDARY
- AOI 37.4 - CURRENT HAZ WASTE STORAGE AREA

AOI 38 - SWITCH HOUSE OPERATIONS
- AOI 38.1 - FORMER SWITCH HOUSE
- AOI 38.2 - CURRENT SWITCH HOUSE

AOI 39 - PCB AREAS
- AOI 39.1 - PCB AREA No. 1
- AOI 39.2 - PCB AREA No. 2

AOI 40 - ON-SITE FILL AREA

LEGEND
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- MUNICIPAL STORM SEWER

NO	Revision	Date	Initial

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

LOCATIONS OF AOIs

NO FURTHER ACTION REPORT

FORMER GRAND RAPIDS METAL PLANT WYOMING, MICHIGAN

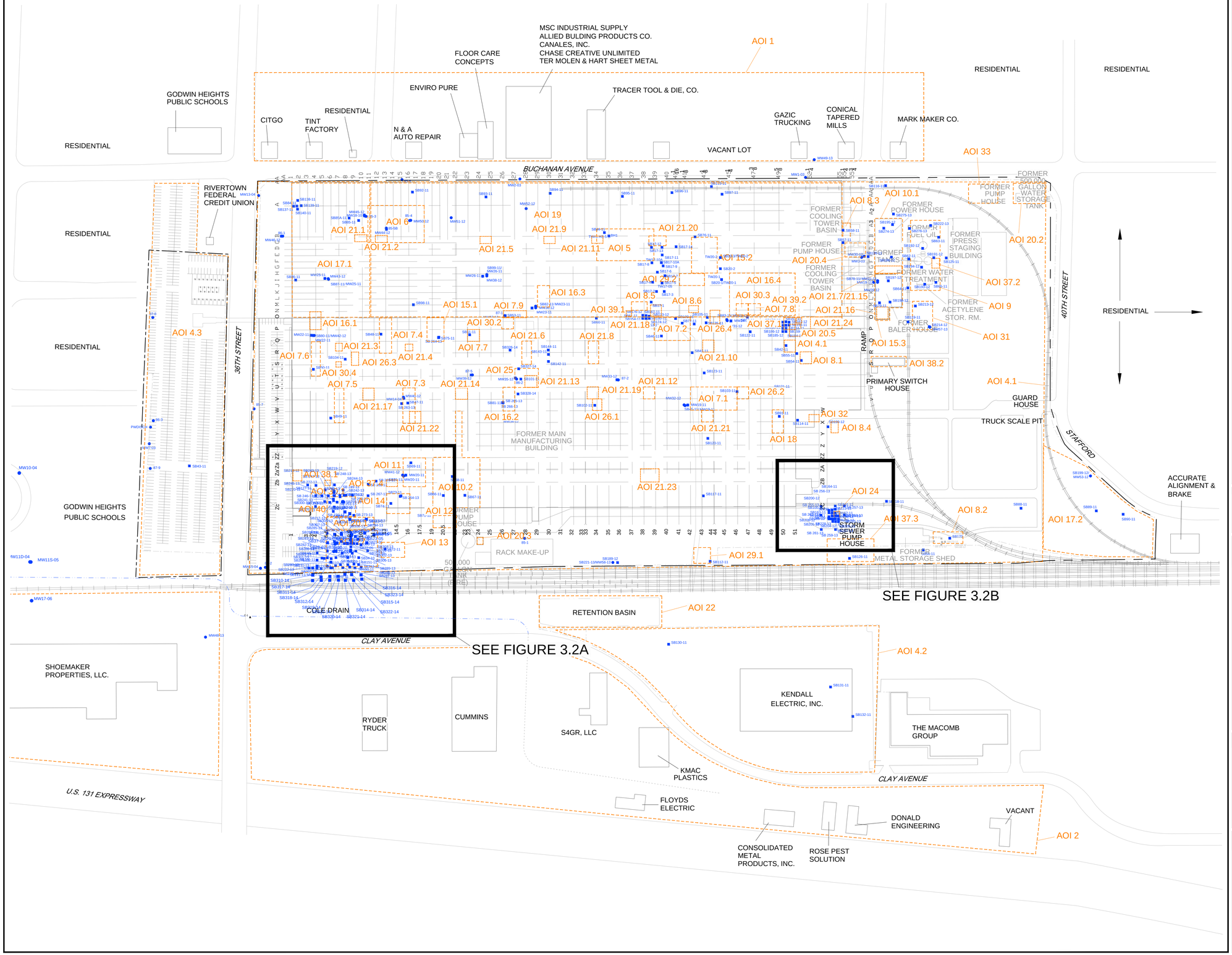
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Source Reference:

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J.Q.	E.B.	OCTOBER 2016	
Scale: 1:200	Project NO: 017360-T12	Report NO: 034	Drawing NO: figure 3.1

017360-T12(034)GN-DE005 REV 2 OCT 13, 2016

Nº	Revision	Date	Initial



0 50 150ft

LEGEND

- MW15-04 MONITORING WELL LOCATION
- SB275-13 SOIL BORING LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- MUNICIPAL STORM SEWER



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SOIL BORING LOCATIONS

NO FURTHER ACTION REPORT

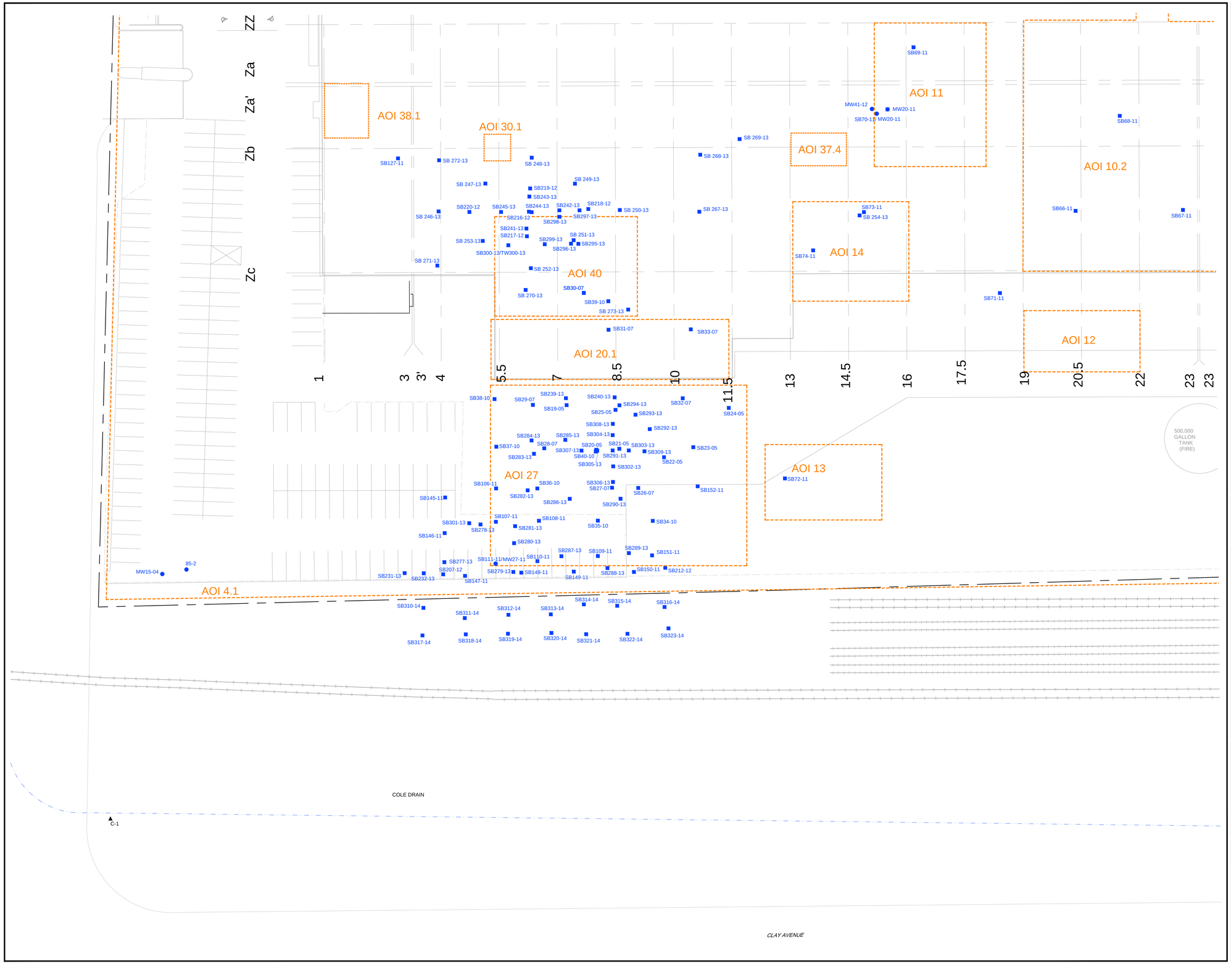
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

GHD

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017360-T12(034)GN-DE006 REV 2 OCT 13, 2016



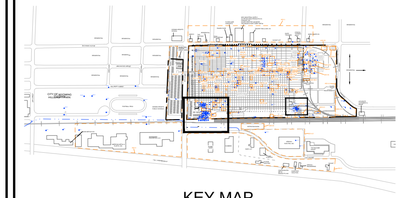
Nº	Revision	Date	Initial

N

0 10 30ft

LEGEND

- MW15-04 — MONITORING WELL LOCATION
- SB275-13 — SOIL BORING LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- MUNICIPAL STORM SEWER



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SOIL BORING LOCATIONS BULK UNLOAD AND Zc AREA

NO FURTHER ACTION REPORT

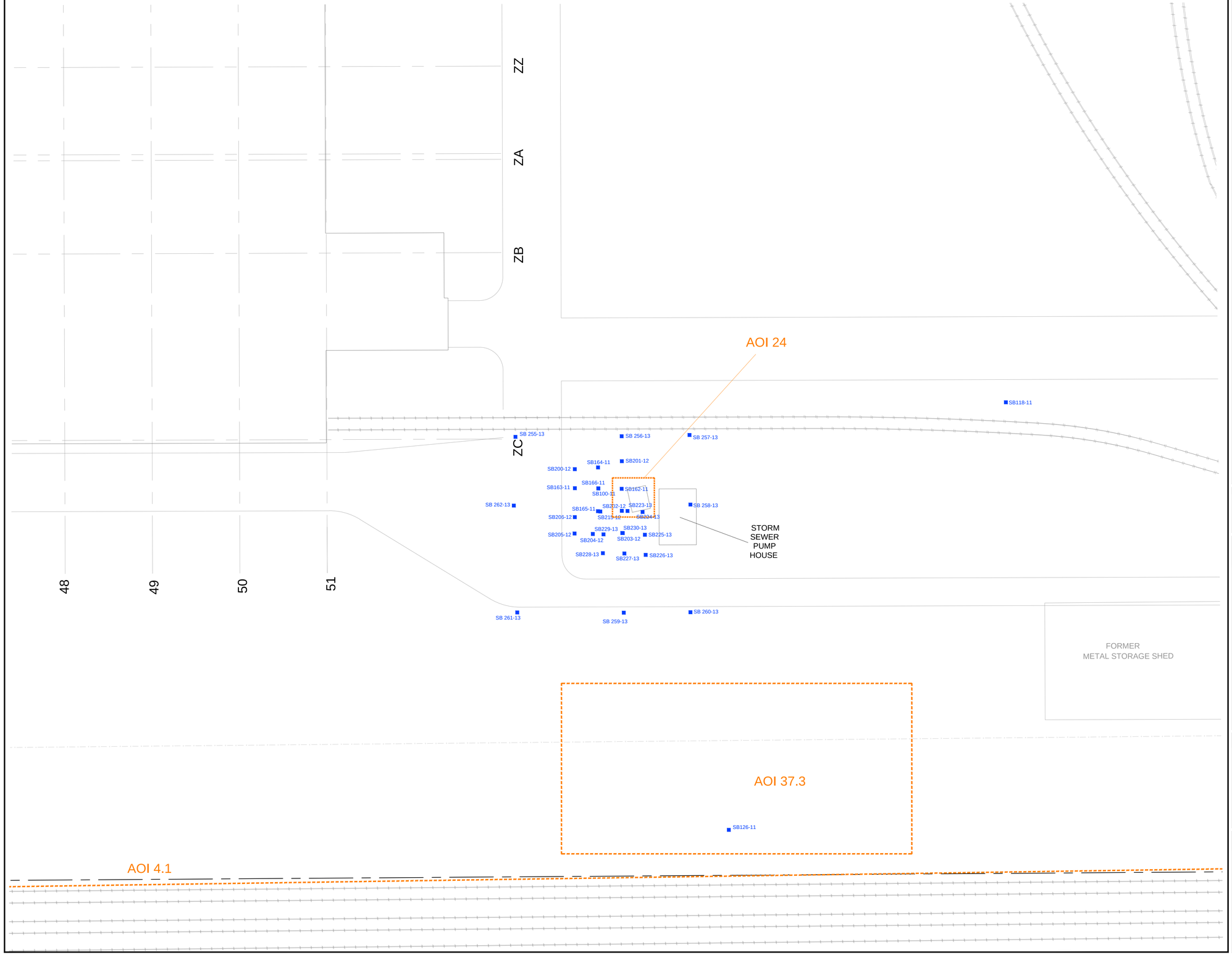
FORMER GRAND RAPIDS METAL PLANT WYOMING, MICHIGAN

GHD

Source Reference:

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017360-T12(034)GN-DE007 REV 2 OCT 13, 2016

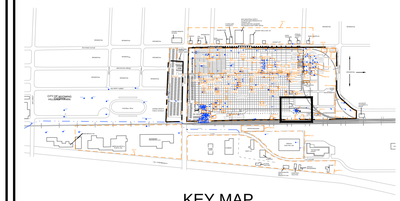


Nº	Revision	Date	Initial

0 10 30ft

LEGEND

- MW15-04 — MONITORING WELL LOCATION
- SB275-13 — SOIL BORING LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- RAILROAD
- APPROXIMATE AOI



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

SOIL BORING LOCATION TAR HOUSE

NO FURTHER ACTION REPORT

FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
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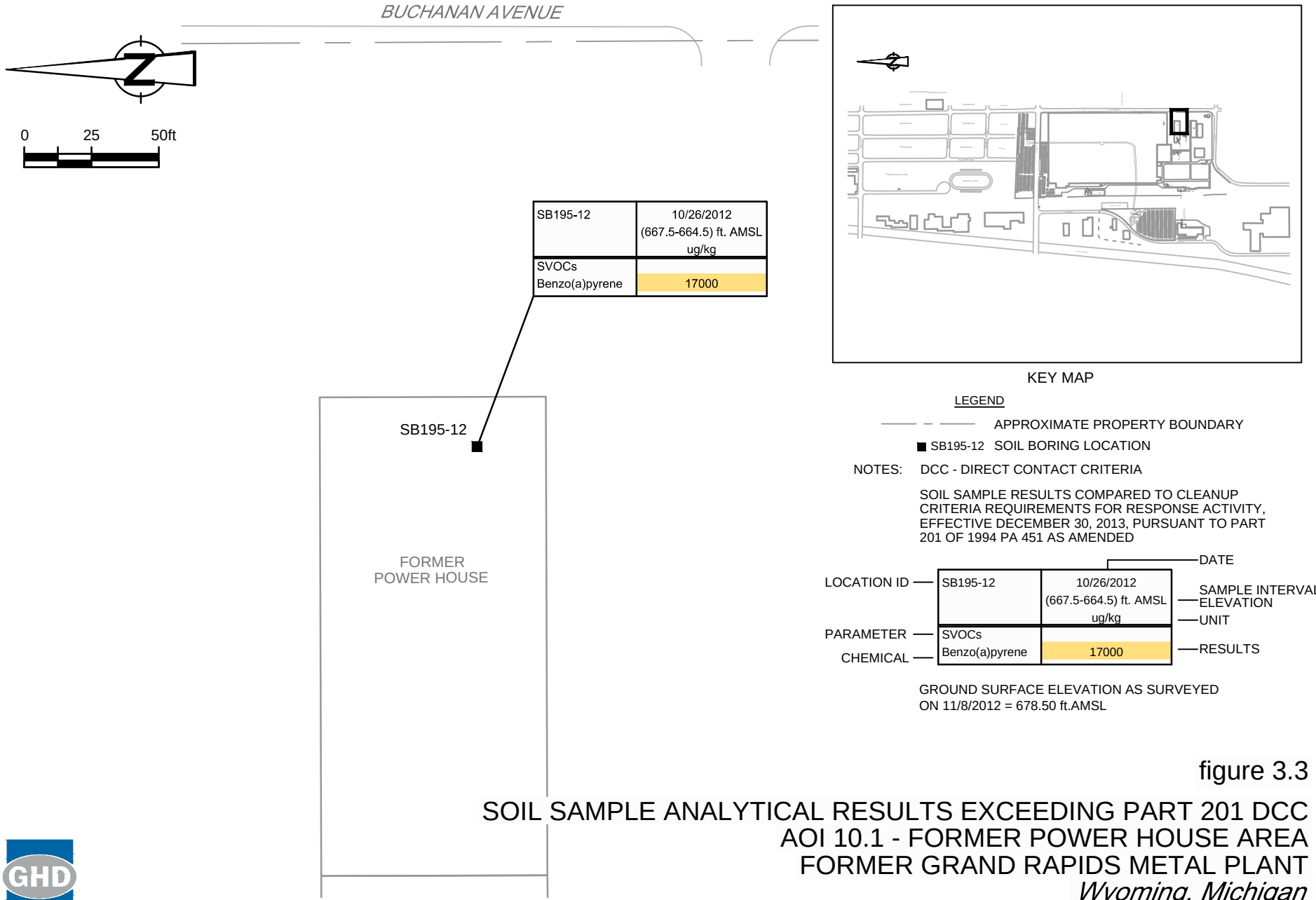


figure 3.3

SOIL SAMPLE ANALYTICAL RESULTS EXCEEDING PART 201 DCC
AOI 10.1 - FORMER POWER HOUSE AREA
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

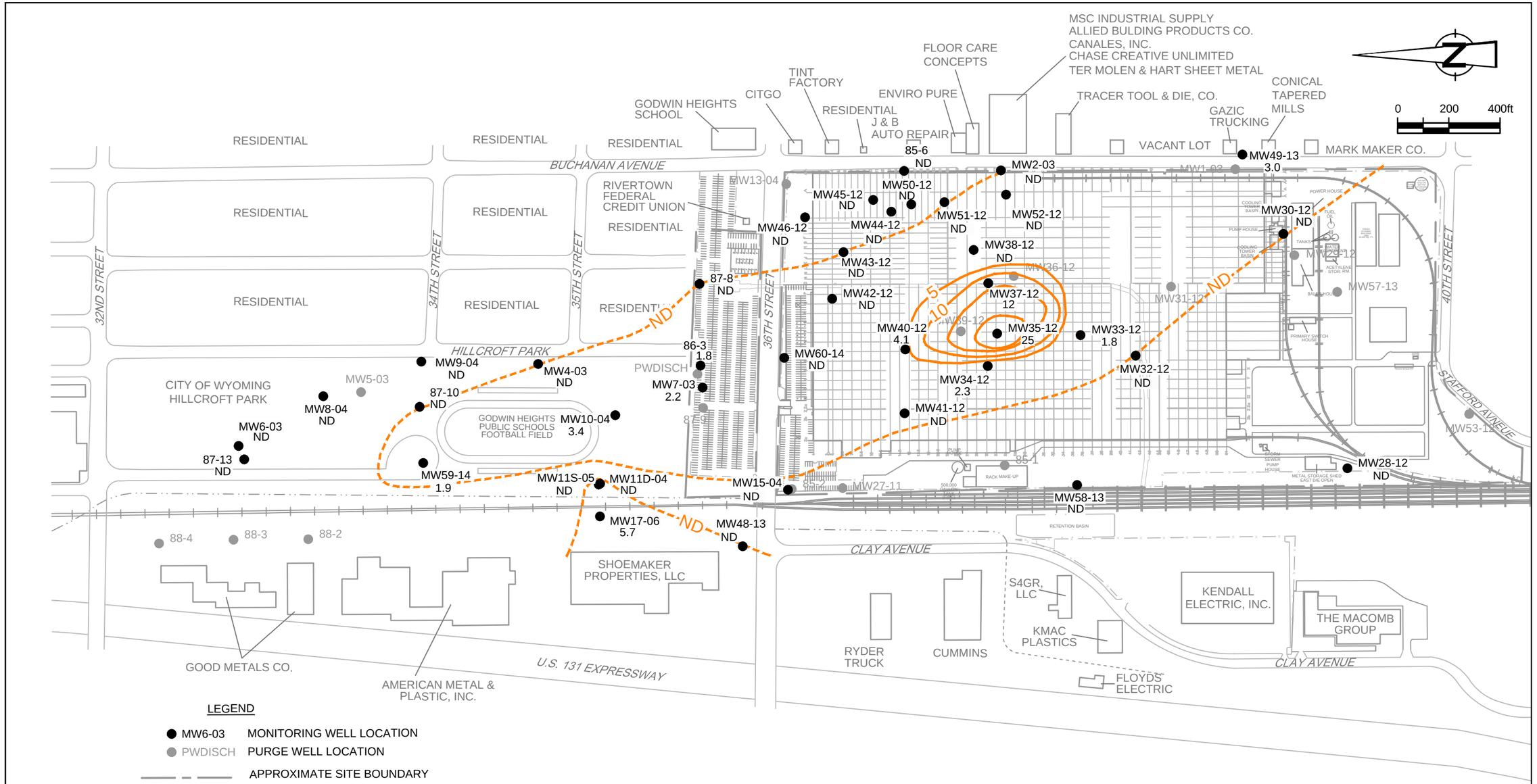
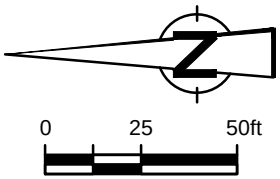


figure 3.4

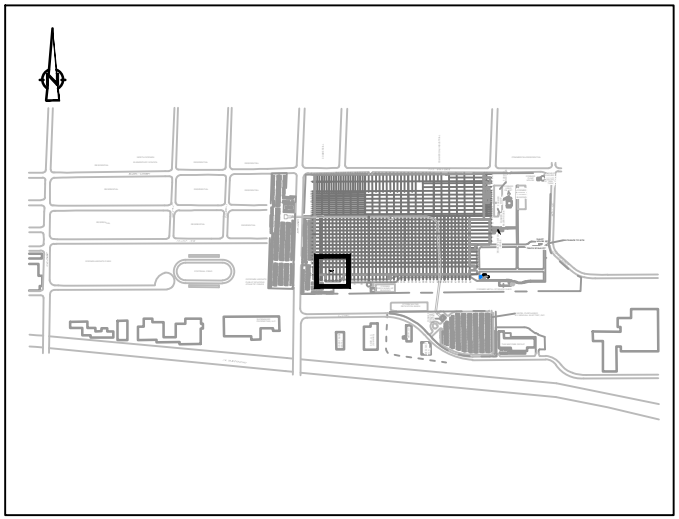
GROUNDWATER TCE CONCENTRATION CONTOURS - APRIL 2017
SPRING 2017 SEMI-ANNUAL GROUNDWATER MONITORING
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

017360-T12(034)GN-DE010 JUL 26, 2017



SB297-13	10/23/2013 (668.38-666.38) ft. AMSL ug/kg
Metals	
Chromium	2700000/2000000
Lead	2300000 J/540000 J
Manganese	6200000/3600000

SB297-13



KEY MAP

LEGEND

■ SB297-13 SOIL BORING LOCATION

NOTES: DCC - DIRECT CONTACT CRITERIA
PSIC - PARTICULATE SOIL INHALATION CRITERIA

SOIL SAMPLE RESULTS COMPARED TO CLEANUP CRITERIA REQUIREMENTS FOR RESPONSE ACTIVITY, EFFECTIVE DECEMBER 30, 2013, PURSUANT TO PART 201 OF 1994 PA 451 AS AMENDED



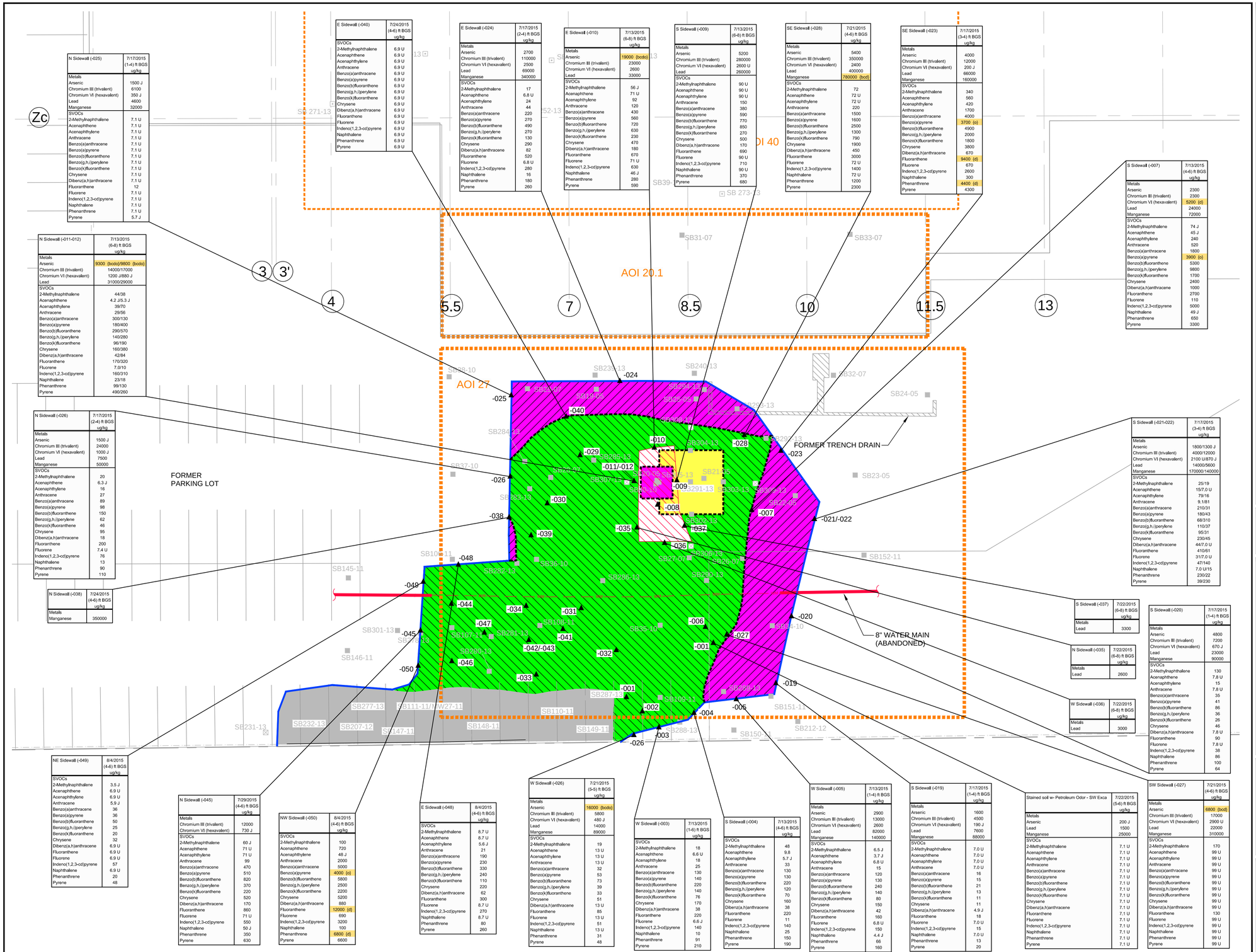
LOCATION ID	SB297-13	10/23/2013 (668.38-666.38) ft. AMSL ug/kg	DATE SAMPLE INTERVAL ELEVATION UNIT
PARAMETER	Metals		
CHEMICAL	Chromium	2700000/2000000	RESULTS
	Lead	2300000 J/540000 J	
	Manganese	6200000/3600000	

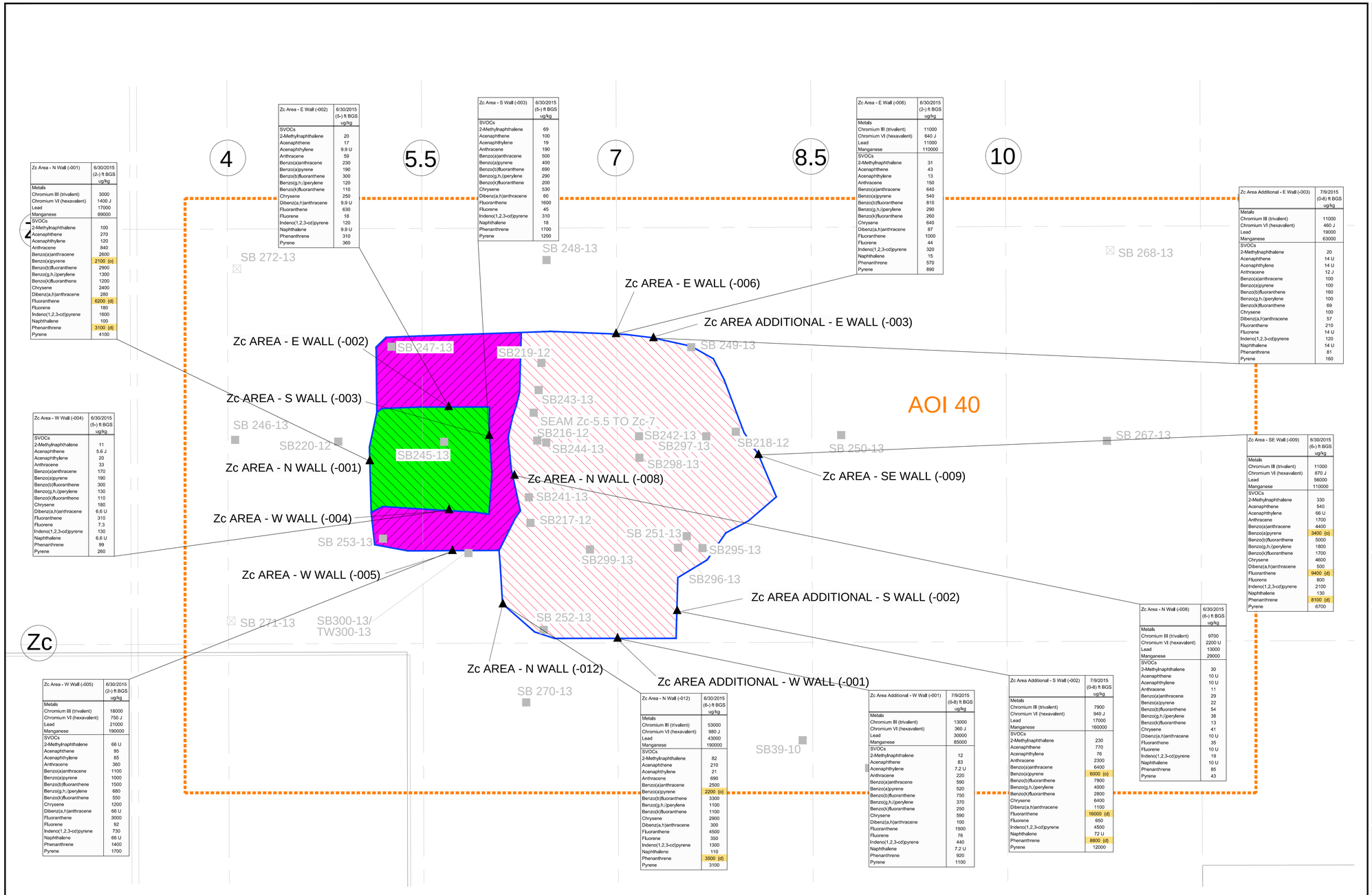
GROUND SURFACE ELEVATION AS SURVEYED ON 10/25/2013 = 676.38 ft.AMSL

figure 3.5

SOIL SAMPLE ANALYTICAL RESULTS EXCEEDING PART 201 DCC & PSIC
AOI 40 - Zc AREA
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

N2	Revision	Date	Initial





Zc Area - N Wall (-001)	6/30/2015 (2-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	3000
Chromium VI (hexavalent)	1400 J
Lead	17000
Manganese	89000
SVOCs	
2-Methylnaphthalene	100
Acenaphthene	270
Acenaphthylene	120
Anthracene	840
Benzo(a)anthracene	2600
Benzo(a)pyrene	2100 (o)
Benzo(b)fluoranthene	2900
Benzo(g,h,i)perylene	1300
Benzo(k)fluoranthene	1200
Chrysene	2400
Dibenz(a,h)anthracene	280
Fluoranthene	6200 (d)
Fluorene	180
Indeno(1,2,3-cd)pyrene	1600
Naphthalene	100
Phenanthrene	3100 (d)
Pyrene	4100

Zc Area - E Wall (-002)	6/30/2015 (5-) ft BGS ug/kg
SVOCs	
2-Methylnaphthalene	20
Acenaphthene	17
Acenaphthylene	9.9 U
Anthracene	59
Benzo(a)anthracene	230
Benzo(a)pyrene	190
Benzo(b)fluoranthene	300
Benzo(g,h,i)perylene	120
Benzo(k)fluoranthene	110
Chrysene	250
Dibenz(a,h)anthracene	9.9 U
Fluoranthene	630
Fluorene	18
Indeno(1,2,3-cd)pyrene	120
Naphthalene	9.9 U
Phenanthrene	310
Pyrene	360

Zc Area - S Wall (-003)	6/30/2015 (5-) ft BGS ug/kg
SVOCs	
2-Methylnaphthalene	69
Acenaphthene	100
Acenaphthylene	19
Anthracene	190
Benzo(a)anthracene	500
Benzo(a)pyrene	400
Benzo(b)fluoranthene	690
Benzo(g,h,i)perylene	290
Benzo(k)fluoranthene	200
Chrysene	530
Dibenz(a,h)anthracene	60
Fluoranthene	1600
Fluorene	45
Indeno(1,2,3-cd)pyrene	310
Naphthalene	18
Phenanthrene	1700
Pyrene	1200

Zc Area - E Wall (-006)	6/30/2015 (2-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	11000
Chromium VI (hexavalent)	640 J
Lead	11000
Manganese	110000
SVOCs	
2-Methylnaphthalene	31
Acenaphthene	43
Acenaphthylene	13
Anthracene	150
Benzo(a)anthracene	640
Benzo(a)pyrene	540
Benzo(b)fluoranthene	810
Benzo(g,h,i)perylene	290
Benzo(k)fluoranthene	260
Chrysene	640
Dibenz(a,h)anthracene	87
Fluoranthene	1000
Fluorene	44
Indeno(1,2,3-cd)pyrene	320
Naphthalene	15
Phenanthrene	570
Pyrene	890

Zc Area Additional - E Wall (-003)	7/9/2015 (0-6) ft BGS ug/kg
Metals	
Chromium III (trivalent)	11000
Chromium VI (hexavalent)	460 J
Lead	19000
Manganese	63000
SVOCs	
2-Methylnaphthalene	20
Acenaphthene	14 U
Acenaphthylene	14 U
Anthracene	12 J
Benzo(a)anthracene	100
Benzo(a)pyrene	100
Benzo(b)fluoranthene	160
Benzo(g,h,i)perylene	100
Benzo(k)fluoranthene	69
Chrysene	100
Dibenz(a,h)anthracene	57
Fluoranthene	210
Fluorene	14 U
Indeno(1,2,3-cd)pyrene	120
Naphthalene	14 U
Phenanthrene	81
Pyrene	160

Zc Area - W Wall (-004)	6/30/2015 (5-) ft BGS ug/kg
SVOCs	
2-Methylnaphthalene	11
Acenaphthene	5.6 J
Acenaphthylene	20
Anthracene	33
Benzo(a)anthracene	170
Benzo(a)pyrene	190
Benzo(b)fluoranthene	300
Benzo(g,h,i)perylene	130
Benzo(k)fluoranthene	110
Chrysene	180
Dibenz(a,h)anthracene	6.6 U
Fluoranthene	310
Fluorene	7.3
Indeno(1,2,3-cd)pyrene	130
Naphthalene	6.6 U
Phenanthrene	99
Pyrene	260

Zc Area - SE Wall (-009)	6/30/2015 (5-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	11000
Chromium VI (hexavalent)	670 J
Lead	56000
Manganese	110000
SVOCs	
2-Methylnaphthalene	330
Acenaphthene	540
Acenaphthylene	66 U
Anthracene	1700
Benzo(a)anthracene	4400
Benzo(a)pyrene	3400 (o)
Benzo(b)fluoranthene	5000
Benzo(g,h,i)perylene	1800
Benzo(k)fluoranthene	1700
Chrysene	4600
Dibenz(a,h)anthracene	500
Fluoranthene	9400 (d)
Fluorene	800
Indeno(1,2,3-cd)pyrene	2100
Naphthalene	130
Phenanthrene	8100 (d)
Pyrene	6700

Zc Area - N Wall (-008)	6/30/2015 (6-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	9700
Chromium VI (hexavalent)	2200 U
Lead	13000
Manganese	29000
SVOCs	
2-Methylnaphthalene	30
Acenaphthene	10 U
Acenaphthylene	10 U
Anthracene	11
Benzo(a)anthracene	29
Benzo(a)pyrene	22
Benzo(b)fluoranthene	54
Benzo(g,h,i)perylene	38
Benzo(k)fluoranthene	13
Chrysene	41
Dibenz(a,h)anthracene	10 U
Fluoranthene	35
Fluorene	10 U
Indeno(1,2,3-cd)pyrene	19
Naphthalene	10 U
Phenanthrene	85
Pyrene	43

Zc Area - W Wall (-005)	6/30/2015 (2-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	18000
Chromium VI (hexavalent)	750 J
Lead	21000
Manganese	190000
SVOCs	
2-Methylnaphthalene	66 U
Acenaphthene	95
Acenaphthylene	85
Anthracene	360
Benzo(a)anthracene	1100
Benzo(a)pyrene	1000
Benzo(b)fluoranthene	1500
Benzo(g,h,i)perylene	680
Benzo(k)fluoranthene	550
Chrysene	1200
Dibenz(a,h)anthracene	66 U
Fluoranthene	3000
Fluorene	92
Indeno(1,2,3-cd)pyrene	730
Naphthalene	66 U
Phenanthrene	1400
Pyrene	1700

Zc Area - N Wall (-012)	6/30/2015 (6-) ft BGS ug/kg
Metals	
Chromium III (trivalent)	53000
Chromium VI (hexavalent)	980 J
Lead	43000
Manganese	190000
SVOCs	
2-Methylnaphthalene	82
Acenaphthene	210
Acenaphthylene	21
Anthracene	690
Benzo(a)anthracene	2500
Benzo(a)pyrene	2200 (o)
Benzo(b)fluoranthene	3300
Benzo(g,h,i)perylene	1100
Benzo(k)fluoranthene	1100
Chrysene	2900
Dibenz(a,h)anthracene	300
Fluoranthene	4500
Fluorene	350
Indeno(1,2,3-cd)pyrene	1300
Naphthalene	110
Phenanthrene	3500 (d)
Pyrene	3100

Zc Area Additional - W Wall (-001)	7/9/2015 (0-8) ft BGS ug/kg
Metals	
Chromium III (trivalent)	13000
Chromium VI (hexavalent)	360 J
Lead	30000
Manganese	85000
SVOCs	
2-Methylnaphthalene	12
Acenaphthene	83
Acenaphthylene	7.2 U
Anthracene	220
Benzo(a)anthracene	590
Benzo(a)pyrene	520
Benzo(b)fluoranthene	750
Benzo(g,h,i)perylene	370
Benzo(k)fluoranthene	250
Chrysene	590
Dibenz(a,h)anthracene	100
Fluoranthene	1500
Fluorene	76
Indeno(1,2,3-cd)pyrene	440
Naphthalene	7.2 U
Phenanthrene	920
Pyrene	1100

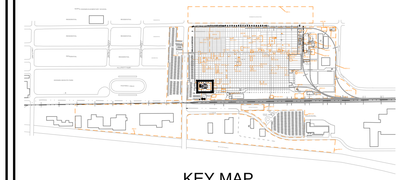
Zc Area Additional - S Wall (-002)	7/9/2015 (0-8) ft BGS ug/kg
Metals	
Chromium III (trivalent)	7900
Chromium VI (hexavalent)	940 J
Lead	17000
Manganese	160000
SVOCs	
2-Methylnaphthalene	230
Acenaphthene	770
Acenaphthylene	76
Anthracene	2300
Benzo(a)anthracene	6400
Benzo(a)pyrene	6000 (o)
Benzo(b)fluoranthene	7900
Benzo(g,h,i)perylene	4000
Benzo(k)fluoranthene	2800
Chrysene	6400
Dibenz(a,h)anthracene	1100
Fluoranthene	16000 (d)
Fluorene	650
Indeno(1,2,3-cd)pyrene	4500
Naphthalene	72 U
Phenanthrene	8800 (d)
Pyrene	12000

Nº	Revision	Date	Initial

0 5 10ft

LEGEND

- SB250-13 INVESTIGATION SOIL SAMPLE LOCATION
- SB 298-13 WASTE CHARACTERIZATION SAMPLE LOCATION
- SOIL BORING LOCATION - SAMPLE NOT ANALYZED
- VERIFICATION SAMPLE LOCATION
- APPROXIMATE AOI
- AOI 40 ONSITE FILL AREA (COLUMN Zc, ROWS 5.5-7)
- EXCAVATION AREA BOUNDARY
- EXCAVATION AREA 0-4 ft bgs
- EXCAVATION AREA 0-6 ft bgs
- EXCAVATION AREA 0-8 ft bgs



KEY MAP

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FINAL SOIL VERIFICATION SAMPLE RESULTS COMPARED TO PART 201 CRITERIA AOI 40 - Zc AREA

NO FURTHER ACTION REPORT

FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

GHD

Source Reference:

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	OCTOBER 2016	
Scale: 1:10	Project Nº: 017360-T12	Report Nº: 034	Drawing Nº: figure 3.7

017360-T12(034)GN-DE013 REV 2 OCT 13, 2016

Tables

Table 2.1

Groundwater Elevation Data
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Location ID	Former Location ID	2/9/2011	9/21/2011	10/22/2012	4/26/2013	10/28/2013	4/11/2014	10/15/2014	4/3/2015	10/19/2015	4/5/2016	10/3/2016	3/31/2017
85-1	--	658.97	659.50	659.21	660.72	659.38	659.88	659.92	659.35	659.31	659.96	659.73	659.75
85-2	--	658.12	658.16	658.05	660.13	658.15	658.58	658.65	658.18	658.11	658.77	658.50	658.56
85-6	--	659.47	661.08	660.73	664.01	661.16	662.93	661.89	661.42	661.14	662.65	662.07	661.17
MW60-14	85-7	657.68	658.23	658.00	659.64	658.12	658.54	658.61	658.28	658.16	658.94	658.68	658.70
86-3	--	657.12	657.63	657.40	658.91	657.57	658.13	656.92	657.62	657.48	658.22	658.01	658.01
87-8	--	657.12	660.08	657.44	659.13	657.54	658.30	657.93	657.68	657.52	658.33	658.10	658.09
87-9	--	657.04	659.47	657.34	658.65	657.42	657.98	657.91	657.52	657.71	658.12	657.87	657.91
87-10	--	655.51	659.15	655.73	657.09	656.20	656.35	656.17	655.87	655.69	656.36	656.17	656.20
MW59-14	87-11	655.35	657.73	655.48	656.21	655.51	655.89	656.12	655.77	655.48	655.99	655.77	655.16
87-13	--	652.76	657.51	652.91	653.47	653.12	653.70	654.45	653.67	652.94	653.42	653.12	653.26
88-2	--	653.74	653.98	653.92	654.59	653.95	654.46	654.76	654.40	653.94	654.46	654.25	654.43
88-3	--	653.01	653.33	653.24	653.91	653.37	653.93	654.32	653.91	653.24	653.76	653.50	653.72
88-4	--	652.35	652.64	652.50	653.32	652.80	653.33	653.55	653.33	652.41	653.00	652.59	652.90
MW1-03	--	660.2	662.56	662.75	665.93	663.32	664.80	664.08	663.58	663.13	664.46	663.96	664.21
MW2-03	--	659.75	656.97	661.57	664.86	662.24	663.84	662.95	662.51	662.06	663.43	662.89	662.95
MW4-03	--	656.27	656.87	--	657.97	656.51	657.19	656.93	656.69	656.96	657.30	657.12	657.03
MW5-03	--	655.22	655.57	655.39	656.66	655.48	656.12	655.95	655.77	655.40	656.09	656.31	656.21
MW6-03	--	653.07	659.39	653.21	654.07	653.42	654.09	654.36	653.94	653.25	653.80	653.48	653.67
MW7-03	--	657.34	658.10	657.60	659.34	657.71	658.33	658.14	657.82	657.68	658.44	658.19	658.23
MW8-04	--	654.36	657.43	654.54	655.78	654.65	655.32	655.15	654.99	654.57	655.24	654.99	655.07
MW9-04	--	655.9356	660.51	656.13	657.60	656.19	656.89	656.59	--	656.11	656.89	656.69	656.69
MW10-04	--	656.6	661.11	656.79	658.00	656.84	657.39	657.34	--	656.81	657.52	657.30	657.34
MW11D-04	--	656.66	661.49	656.86	657.62	656.89	657.20	657.82	--	656.86	657.41	657.21	657.32
MW11S-05	--	656.64	658.83	656.81	657.39	656.83	657.06	657.41	--	656.80	657.23	657.06	657.18
MW13-04	--	658.39	664.89	659.15	661.94	659.39	660.88	660.01	659.68	659.31	660.66	660.19	(3)
MW15-04	--	658.03	659.73	658.00	659.09	658.09	658.52	658.64	658.14	658.08	658.69	658.44	658.61
MW17-06	--	660.16	661.65	657.37	658.18	657.41	657.71	658.12	657.51	657.39	658.00	657.75	657.94
MW27-11	--	658.23	656.44	658.22	659.29	658.31	658.74	658.89	658.34	(2)	(2)	(2)	(2)
MW28-12	--	--	--	662.04	664.25	662.49	663.16	663.30	662.34	662.06	662.90	662.76	662.88
MW29-12	MW21-11	662.98	662.86	662.53	665.39	662.94	663.91	664.04	663.05	662.59	663.94	663.40	663.85
MW30-12	MW3-03	661.97	656.93	662.55	665.52	662.98	664.12	664.16	663.13	662.63	664.02	663.47	663.96
MW31-12	MW24-11	660.66	653.41	661.22	663.99	661.64	662.55	662.17	661.59	661.34	662.48	662.05	662.03
MW32-12	MW19-11	660.38	659.15	660.62	663.14	661.01	661.76	661.25	660.91	660.76	661.71	661.42	661.36
MW33-12	87-2	659.54	655.93	659.99	662.41	660.34	661.33	660.74	660.25	660.16	661.01	660.76	660.69
MW34-12	87-4	658.84	655.60	658.97	660.85	659.19	659.81	659.60	659.18	659.10	659.86	659.63	659.61
MW35-12	86-2	660.06	660.70	659.02	661.01	659.25	659.91	659.66	659.24	659.17	659.94	659.70	659.66
MW36-12	MW23-11	659.14	655.57	659.47	662.15	659.81	660.71	660.22	659.83	659.74	660.60	660.35	660.27
MW37-12	87-1	658.59	659.39	659.08	661.42	659.34	660.18	659.74	659.35	659.29	660.12	659.85	659.82
MW38-12	MW26-11	658.69	654.79	658.92	661.11	659.20	660.00	659.56	659.22	659.13	660.01	659.72	659.69
MW39-12	87-5	658.49	653.04	658.77	660.69	658.96	659.63	659.36	658.98	658.90	659.68	659.42	659.42
MW40-12	MW14-04	658.79	658.67	658.61	660.51	658.78	659.48	659.19	658.82	658.75	659.53	659.28	659.26
MW41-12	MW20-11	658.57	658.36	658.58	660.25	658.74	659.34	659.20	658.78	658.72	659.42	659.18	659.17
MW42-12	MW22-11	658.34	656.75	658.43	660.34	658.60	659.35	659.03	658.66	658.56	659.38	659.14	659.10
MW43-12	MW25-11	658.61	657.81	658.79	661.27	659.02	660.14	659.54	659.17	658.96	660.07	659.67	659.69
MW44-12	85-5B	659.35	660.77	660.02	663.39	660.44	662.16	661.25	660.79	660.50	661.92	661.44	661.45
MW45-12	MW18-10	658.95	659.20	659.89	663.38	660.24	662.03	661.03	660.62	660.26	661.72	661.18	661.18
MW46-12	86-1	658.28	659.47	658.94	661.76	659.20	660.59	659.77	659.43	659.14	660.39	659.95	660.00
MW48-13	--	--	--	--	658.60	657.95	658.64	658.47	658.02	657.92	658.62	658.36	658.40

Groundwater Elevation Data
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Location ID	Former Location ID	2/9/2011	9/21/2011	10/22/2012	4/26/2013	10/28/2013	4/11/2014	10/15/2014	4/3/2015	10/19/2015	4/5/2016	10/3/2016	3/31/2017
MW49-13	--	--	--	--	665.83	663.37	664.88	664.11	663.65	663.17	664.51	664.00	664.26
MW50-12	--	--	--	--	663.78	661.20	662.84	661.90	661.47	661.15	662.60	662.05	662.12
MW51-12	--	--	--	--	663.93	661.31	662.91	661.99	661.56	661.26	662.64	662.14	662.18
MW52-12	--	--	--	--	664.88	662.23	662.88	662.94	662.42	662.05	663.45	662.87	662.98
MW53-12	--	--	--	--	665.37	663.51	664.28	664.04	663.37	662.89	663.90	663.72	663.90
MW57-13	--	--	--	--	665.28	662.95	663.97	663.98	663.00	662.55	663.79	663.36	664.07
MW58-13	--	--	--	--	661.62	660.13	660.65	660.66	660.05	659.96	660.65	660.47	660.49
PWDISCH	--	--	--	--	658.92	657.56	658.18	657.98	657.67	657.51	658.28	658.04	658.05

Notes:

(1) Groundwater elevations measured in feet above mean sea level.

(2) MW27-11 was abandoned during remedial excavation activities conducted in June of 2015.

(3) MW13-04 was concreted over by a sign installation

Table 3.1

Summary of Evaluations Completed at AOIs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 1	Adjacent Properties - East of Buchanan Avenue SW between 36th Street and 40th Street	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater	MW48-13	GSIC	--	**F**
AOI 2	Adjacent Properties - Along Clay Avenue SW to the west of the Site	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
AOI 3	Adjacent Properties - West side of Cole Drain to the northwest of the Site	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater	MW49-13	--	--	**F**
AOI 4	**Historical Site Operations**					
AOI 4.1	Long-Term Industrial Operations - Main Parcel	**Soil**	SB41-11	--	--	**A**
			SB42-11	--	--	**A**
			SB189-12	--	--	**C**
			SB221-13	--	--	**F**
		Groundwater	MW58-13	--	--	**F**
AOI 4.2	Historical Operations - Western Parcel	**Soil**	See Kendall Electric, Inc. NFA report for investigation details.	--	No Further Action Determination from MDEQ.	--
		Groundwater				
AOI 4.3	Historical Operations - Northern Parcels	**Soil**	SB43-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 5	Release from Press HS-5 (Columns B to F, Rows 34 to 39)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 6	LNAPL and SVOC-Impacted Groundwater (Columns A to C, Rows 11 to 18)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater	MW50-12, MW51-12, MW52-12	--	Developed LNAPL Conceptual Site Model Memo (see Appendix C)	**C**

Summary of Evaluations Completed at AOIs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 7	**Former Metal Finishing Operations**					
AOI 7.1	Bonderizing Operations (Columns U to W, Rows 42 to 46)	**Soil**	SB45-11	--	--	**E**
		Groundwater	MW32-12	--	--	--
AOI 7.2	Lacquer and Cement Spray (Columns O to Q, Rows 39 to 42)	**Soil**	SB46-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 7.3	Anti-Rust Spray Booth No. 1 (Columns U to X, Row 16)	**Soil**	SB47-11	--	--	**A**
			SB263-13			**J**
		Groundwater	--	--	--	--
AOI 7.4	Anti-Rust Spray Booth No. 2 (Columns O to R, Row 13)	**Soil**	SB48-11	--	--	**E**
		Groundwater	--	--	--	--
AOI 7.5	Anti-Rust Spray Booth No. 3 (Columns U to X, Row 7)	**Soil**	SB49-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 7.6	Anti-Rust Spray Booth No. 4 (Columns Q to T, Row 4)	**Soil**	SB50-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 7.7	Former West Paint Booth (Columns P to Q, Rows 24 to 25)	**Soil**	SB51-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 7.8	Former West Paint Booth (Current Steam Clean Booth)(Column N, Row 47)	**Soil**	SB52-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 7.9	Former East Paint Booth (Columns O to N, Rows 26 to 28)	**Soil**	SB53-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 8	**USTs**					
AOI 8.1	Former Mineral Spirits and Mineral Seal Oil USTs (Columns R to S, South of Row 51)	**Soil**	SB54-11	--	--	**A**
			SB55-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 8.2	Former Gasoline and Diesel USTs (South of Metal Storage Shed)	**Soil**	SB56-11	--	A Closure Report that included the results of this investigation was submitted to the MDEQ and approved for the confirmed release under Part 213.	**A**
			SB168-12	--		--
			SB169-12	--		--
			SB170-12	--		--
			SB171-12	--		--
			SB172-12	--		--
		Groundwater	MW28-12	--		--
AOI 8.3	Former Heating Oil and Oil USTs (North of the East Cooling Tower)	**Soil**	SB57-11	--	--	**A**
			SB58-11	--	--	**A**
		Groundwater	SB57-11	--	--	**A**
AOI 8.4	Former 5,000-Gallon and 8,000-Gallon Gasoline USTs (South of the former Main Manufacturing Building, east of Railroad Track No. 5, and west of the cooling towers)	**Soil**	SB190-12	--	--	**C**
		Groundwater	SB190-12	--	--	**C**
AOI 8.5	Former 1,000-Gallon Gasoline UST No. 1 (South of Row 35, no Column identified, likely	**Soil**	SB61-11	--	--	**C**
		Groundwater	SB61-11	--	--	**C**

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 8.6	Former 1,000-Gallon Gasoline UST No. 2 (North of former Heat Treat Building and west of former Baler House)	**Soil**	SB77-11	NRDCC	Remedial excavation of PAH impacted soils	**A**
			SB133-11	--	--	**B**
			SB134-11	--	--	**B**
			SB135-11	--	--	**B**
			SB177-12	--	--	**D**
			SB178-12	--	--	**D**
			SB179-12	--	--	**D**
			SB180-12	--	--	**D**
			SB77-11 Excavation Verification Samples	--	--	**D**
		Groundwater	--	--	--	--
AOI 8.7	Potential UST (Near Column O, Row 34)	**Soil**	SB60-11	--	--	**A**
		Groundwater	SB60-11	--	--	**A**
AOI 9	Former Wastewater Treatment Plant (South of former Main Manufacturing Building)	**Soil**	SB62-11	--	--	**A**
			SB63-11	--	--	**A**
			SB64-11	--	--	**A**
			SB65-11	--	--	**A**
			SB188-12	--	--	**D**
			SB191-12	--	--	**C**
			SB192-12	--	--	**C**
			SB193-12	--	--	**C**
			SB194-12	--	--	**C**
		Groundwater	SB64-11	--	--	**A**
			SB192-12	--	--	**C**
AOI 10	**Power House Operations**					
AOI 10.1	Former Powerhouse (South of former Main Manufacturing Building)	**Soil**	SB136-11	--	--	**B**
			SB195-12	NRDCC	Sample location and restrictions identified in RC	**C**
			SB196-12	--	--	**C**
			SB223-12	--	--	**F**
			SB274-13	--	--	**H**
			SB275-13	--	--	**H**
			SB276-13	--	--	**H**
		Groundwater	SB195-12	--	--	**C**
AOI 10.2	Former Powerhouse (Column ZZ, Rows 19 to 24, with tunnel Columns ZZ to W, Rows 22 to 22 1/2)	**Soil**	SB66-11	--	--	**A**
			SB67-11	--	--	**A**
			SB68-11	--	--	**A**
		Groundwater	SB67-11	--	--	**A**
AOI 11	Former AOF House (Column ZZ, Rows 15 to 18)	**Soil**	SB69-11	--	--	**A**
			SB70-11	--	--	**A**
		Groundwater	--	--	--	--

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 12	Former Cooling Tower Basin (Column Zc, Rows 19 to 22)	**Soil**	SB71-11	--	--	**A**
		Groundwater	SB71-11	--	--	**A**
AOI 13	Former Cooling Water Spray Pond (West of former Main Manufacturing Building, Rows 13 to 18 1/2)	**Soil**	SB72-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 14	Former Sludge Bed (General area of Column Zc, Rows 13 to 16)	**Soil**	SB73-11	--	--	**A**
			SB74-11	--	--	**A**
			SB254-13	--	--	**G**
		Groundwater	SB254-13	--	--	**G**
AOI 15	**Former Baler Operations**					
AOI 15.1	Former former Main Manufacturing Building Balers (Columns O to Q, Rows 20 1/2 to 22)	**Soil**	SB75-11	--	--	**A**
		Groundwater	SB264-13	--	--	**G**
AOI 15.2	Former Baler House (Columns C to H, Rows 42 to 44)	**Soil**	SB76-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 15.3	Former Baler House (South of former Main Manufacturing Building)	**Soil**	SB78-11	--	--	**A**
			SB79-11	--	--	**A**
			SB197-12	--	--	**C**
			SB198-12	--	--	**C**
		Groundwater	SB197-12	--	--	**C**
AOI 16	**Former Heat Treat Operations**					
AOI 16.1	Former Main Manufacturing Building Area No. 1 (Column O, Row 4)	**Soil**	SB80-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 16.2	Former Main Manufacturing Building Area No. 2 (Columns U to W, Rows 26 to 27)	**Soil**	SB81-11	--	--	**A**
			SB265-13	--	--	**G**
			SB266-13	--	--	**G**
		Groundwater	--	--	--	--
AOI 16.3	Former Heat Treat Building No. 1 (Columns J to M, Rows 29 to 30 1/2)	**Soil**	SB82-11			**A**
		Groundwater	--	--	--	--
AOI 16.4	Former Heat Treat Building No. 2 (Columns H to O, Rows 45 to 50)	**Soil**	SB83-11	--	--	**A**
		Groundwater	--	--	--	--

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 17	**Former Tool and Die Operations**					
AOI 17.1	Former Main Manufacturing Building Operations (Columns AA to O, Rows 1 to 11)	**Soil**	SB84-11	NRDCC	Excavation and disposal of soil with concentrations exceeding target criteria	**A**
			SB84-11 Excavation Verification Samples	--	--	**D**
			SB85A-11	--	--	**A**
			SB86-11	--	--	**A**
			SB87-11	--	--	**A**
			SB137-11	--	--	**B**
			SB138-11	--	--	**B**
			SB139-11	--	--	**B**
			SB140-11	--	--	**B**
		Groundwater	--	--	--	--
AOI 17.2	Historical Exterior Die Storage (South of former Main Manufacturing Building)	**Soil**	SB88-11	--	--	**A**
			SB89-11	--	--	**A**
			SB90-11	--	--	**A**
		Groundwater	SB88-11	--	--	--
AOI 18	Former Coolant Recovery System (Columns W to Y, Rows 49 to 50)	**Soil**	SB91-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 19	Former Stamping Operations (Columns AA to O, Rows 12 to 55)	**Soil**	SB92-11	--	--	**A**
			SB93-11	--	--	**A**
			SB94-11	--	--	**A**
			SB96-11	--	--	**A**
			SB97-11	--	--	**A**
			SB98-11	--	--	**A**
			SB99-11	--	--	**A**
		Groundwater	--	--	--	--

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 20	**ASTs**					
AOI 20.1	Former Oil Stores ASTs	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 20.2	Former South Pump House AST (South Pump House, south of former Main Manufacturing Building)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 20.3	Former North Pump House AST (North Pump House, west of former Main Manufacturing Building)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 20.4	Former Cooling Tower Pump House AST (South of former Main Manufacturing Building)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 20.5	Former Bulk Deadener AST (Column P, Row 51)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 21	**Substations**					
AOI 21.9	Substation K	**Soil**	Substation K-1	--	--	**D**
			Substation K-2	--	--	**D**
		Groundwater	--	--	--	--
AOIs 21.2 through 21.24	Other Individual Substations	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 22	Stormwater Retention Pond	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				
AOI 23	Wood Floor Block	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater				

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 24	Former Tar House	**Soil**	SB100-11	TSCA Criterion for bulk PCB remediation waste in High Occupancy Areas without further conditions (40 CFR 761.61(a)(4)(i)).	Excavation and disposal of soil with PCB concentrations exceeding target criteria	**A**
			SB157-11			**B**
			SB158-11			**B**
			SB159-11			**B**
			SB160-11			**B**
			SB161-11			**B**
			SB162-11			**B**
			SB163-11			**B**
			SB164-11			**B**
			SB165-11			**B**
			SB166-11			**B**
			SB200-12			**C**
			SB201-12			**C**
			SB202-12			**C**
			SB203-12			**C**
			SB204-12			**C**
			SB205-12			**C**
			SB206-12			**C**
			SB215-12			**C**
			SB223-12			**F**
			SB224-13			**F**
			SB225-13			**F**
			SB226-13			**F**
			SB227-13			**F**
			SB228-13			**F**
			SB229-13			**F**
			SB230-13			**F**
			SB255-13			**G**
			SB256-13			**G**
			SB257-13			**G**
			SB258-13			**G**
			SB259-13			**G**
			SB260-13			**G**
			SB261-13			**G**
			SB262-13			**G**
			PCB Verification Samples			**J**
		Groundwater	--	--	--	--

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 25	Former Maintenance Degreaser (Column T, Row 27)	Soil	SB101-11	--	--	A
			HA144-11	--	--	B
			SB142-11	--	--	B
			SB143-11	--	--	B
			SB326-14	--	--	K
			SB327-14	--	--	K
			SB328-14	--	--	K
		Groundwater	MW35-12	--	--	--
AOI 26	Additional Former Degreasing Operations					
AOI 26.1	Shell Cooler After Degreaser (Columns V to W, Row 34)	Soil	SB102-11	--	--	A
		Groundwater	SB102-11	--	--	A
AOI 26.2	Former Degreaser (Column U, Row 46)	Soil	SB103-11	--	--	A
		Groundwater	--	--	--	--
AOI 26.3	Former Degreaser (Columns R to S, Row 9)	Soil	SB104-11	--	--	A
		Groundwater	SB104-11	--	--	A
AOI 26.4	Former Degreaser (Column O, Row 44)	Soil	SB105-11	--	--	A
		Groundwater	SB105-11	--	--	A
AOI 27	Oil Stores Bulk Unload Area	Soil	SB106-11	NRDCC, NRPSIC	Excavation and disposal of soil impacted with metals and PAHs	A
			SB107-11			A
			SB108-11			A
			SB109-11			A
			SB110-11			A
			SB111-11			A
			SB145-11			B
			SB146-11			B
			SB147-11			B
			SB148-11			B
			SB149-11			B
			SB150-11			B
			SB151-11			B
			SB152-11			B
			SB207-12			C
			SB212-12			C
			SB232-13			F
			SB239-13			F
			SB240-13			F
			SB277-13			H
			SB278-13			H
			SB280-13			H
			SB282-13			H
			SB284-13			H
			SB290-13			H
			SB291-13			H
			SB292-13			H
			SB294-13			H
		Groundwater	MW27-11	--	--	A

Table 3.1

Summary of Evaluations Completed at AOIs
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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 28	**Additional Bulk Load and Unload Areas**	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 29	**Former Incinerators**					
AOI 29.1	Former Incinerator Area No. 1	**Soil**	SB112-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 29.2	Former Incinerator Area No.2 (Columns H to I, South of Row 40)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 30	**Elevator Pits**					
AOI 30.1	Former Passenger Elevator (Column ZB, Row 5)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 30.2	Former Freight Elevator No.1 (Column O, Row 26)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 30.3	Former Freight Elevator No.2 (Column N, Row 45)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 30.4	Former Freight Elevator (Column S, Row 7)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 31	Former Scrap Metal Storage Pad	**Soil**	SB213-12	--	--	**C**
			SB214-12	--	--	**C**
		Groundwater	SB214-12	Water Solubility Criteria	Installed MW57-13 to confirm/deny presence of LNAPL. No LNAPL detected in MW57-13.	**C**
			MW57-13	--	--	**F**
AOI 32	Former Compactor (Column X, Row 53)	**Soil**	SB114-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 33	Former Railroad Track Operations	**Soil**	SB115-11	--	--	**A**
			SB116-11	--	--	**A**
			SB117-11	--	--	**A**
			SB118-11	--	--	**A**
			SB119-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 34	Former Battery Charging Areas	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 35	Process Infrastructure	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--

Table 3.1

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 36	Potential On-Site Fill Activities	**Soil**	SB120-11	--	--	**A**
			SB121-11	--	--	**A**
			SB122-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 37	**Hazardous Waste Storage Areas**					
AOI 37.1	Former Hazardous Waste Storage Area - Main Plant	**Soil**	SB124-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 37.2	Former Hazardous Waste Storage Area - South of WWTP	**Soil**	SB125-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 37.3	Former Hazardous Waste Storage Area - Western Property Boundary	**Soil**	SB126-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 37.4	Former Hazardous Waste Storage Area (Column Zb, Row 13)	**Soil**	No investigation necessary based on previous evaluations and/or on-Site observations	--	--	--
		Groundwater		--	--	--
AOI 38	**Switch House Operations**					
AOI 38.1	Former Switch House	**Soil**	SB127-11	--	--	**A**
		Groundwater	--	--	--	--
AOI 38.2	Current Switch House	**Soil**	No investigation necessary based on past and current operator (Consumers Energy)	--	--	--
		Groundwater		--	--	--
AOI 39	**PCB Areas**					
AOI 39.1	PCB Area No. 1 (Column O, Rows 38-39)	**Soil**	SB61-11	TSCA Criterion for bulk PCB remediation waste in High Occupancy Areas without further conditions (40 CFR 761.61(a)(4)(i)).	Excavation and disposal of soil with PCB concentrations exceeding target criteria	**A**
			SB153-11			**B**
			SB154-11			**B**
			SB155-11			**B**
			SB156-11			**B**
			SB167-11			**D**
			SB173-12			**D**
			SB174-12			**D**
			SB175-12			**D**
			SB176-12			**D**
			PCB Verification Samples	--	--	**E**
		Groundwater	--	--	--	--

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]
AOI 39.2	PCB Area No. 2 (Column P, Rows 50-51)	**Soil**	SB124-11	TSCA Criterion for bulk PCB remediation waste in High Occupancy Areas without further conditions (40 CFR 761.61(a)(4)(i)).	Excavation and disposal of soil with PCB concentrations exceeding target criteria	**A**
			SB159-11			**B**
			SB157-11			**B**
			SB158-11			**B**
			SB181-12			**D**
			SB184-12			**D**
			SB185-12			**D**
			SB186-12			**D**
			SB187-12			**D**
			PCB Verification Samples	--	--	**E**
		Groundwater	--	--	--	--
AOI 40	On-Site Fill Area (Column Zc, Rows 5.5-7)	**Soil**	Seam - Zc-5.5 to Zc-7	NRDCC and/or NRPSIC	Excavation and disposal of soil impacted with metals and PAHs	**E**
			SB216-12			**C**
			SB217-12			**C**
			SB218-12			**C**
			SB219-12			**C**
			SB220-12			**C**
			SB241-13			**F**
			SB242-13			**F**
			SB243-13			**F**
			SB244-13			**F**
			SB245-13			**F**
			SB246-13			**G**
			SB247-13			**G**
			SB248-13			**G**
			SB249-13			**G**
			SB250-13			**G**
			SB251-13			**G**
			SB252-13			**G**
			SB253-13			**G**
			SB267-13			**H**
			SB269-13			**H**
			SB270-13			**H**
			SB271-13			**H**
			SB272-13			**H**
			SB273-13			**H**
			SB295-13			**H**
			SB299-13			**H**
			SB297-13	NRDCC and NRPSIC	Sample location and restrictions addressed in the RC	**H**
			SB300-13	--	--	**H**
			Zc Area Verification Samples	--	--	**I**
		Groundwater	TW300-13	--	--	**H**

Table 3.1

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AOI Number	AOI Description	Media	Evaluation Completed	Target Criteria Exceeded[1]	Response Activities Conducted	Work Plan/Data Report Key Reference[2]

Notes:
VOCs - Target Compound List Volatile Organic Compounds
NRDCC - Nonresidential Direct Contact Criteria
NRPSIC - Nonresidential Particulate Soil Inhalation Criteria
PAHs - polycyclic aromatic hydrocarbons
PCB - polychlorinated biphenyls
RC - restrictive covenant
[1] Target criteria for soil are NRDCC and NRPSIC and target criteria for groundwater are GSIC, Water Solubility and C_{sat}; as identified in Section 3.4 of the report text. Other Generic Criteria are addressed through the Ordinance or Draft RC.
[2] **Work Plan/Data Report Key:**

Work Plan/Data Report Key Reference	***Work Plan Title***	***Date Submitted***	***MDEQ Approval Date***	***Report Containing Results of Work Plan***	***Report Date***
A	Site-Wide Investigation Work Plan - Initial Site-Wide Investigation Sample Matrix (Report)	1/6/2011	None	Data Package - 2011 Site-Wide Investigation	6/7/2011
B	Stage II Site-Wide Investigation Sample Matrix (Memo)	8/6/2011	8/29/2011 (email)	Data Package - 2011 Site-Wide Investigation - Stage II	7/24/2012
C	Stage III Site-Wide Investigation Sample Matrix (Memo)	10/16/2012	Meeting with MDEQ	Data Package 2012 Site-Wide Investigation - Stage III	3/11/2013
D	Proposed Sample and Excavation Locations (Memo)	4/2/2012	4/3/2012 (email)	Summary of Sampling and Remedial Activities	7/16/2013
E	Self-Implementing Plan for the Remediation of PCB-Impacted Soils Pursuant to 40 CFR 761.61(a) - PCB Areas No. 1 and No. 2	6/7/2012	NA - EPA Approval	PCB Containing PCB Cleanup Completion Summary Report	5/1/2013
F	Stage IV Site-Wide Investigation Sample Matrix (Memo)	2/20/2013	Meeting with MDEQ	Data Package 2013 Site-Wide Investigation - Stage IV	8/6/2013
G	Proposed Sample Location - Site-Wide Investigation Stage V (Memo)	8/9/2013	8/15/2013 (email)	Data Package 2013 Site-Wide Investigation - Stage V	11/12/2013
H	Proposed Sample Location - Site-Wide Investigation Stage VI (Memo)	10/14/2013	Meeting with MDEQ	Data Package 2013 Site-Wide Investigation - Stage VI	2/5/2014
I	Remedial Excavation Work Plan (Report)	12/3/2014	3/12/2015 (email)	No Further Action Report	4/25/2016
J	Risk-Based PCB Cleanup Plan	8/1/2014	NA - EPA Approval	Soil Containing PCB Cleanup Completion Summary Report - Former Tar House and Bulk Unload Areas	11/13/2015
K	Surveying and Soil Sampling - Former Degreaser Area (email to MDEQ)	12/5/2014	None	AOI 25 - Former Degreaser Area Investigation	2/27/2015

Table 3.2

Summary of Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	200	200	89	660000	1300000	1330000	ID
1,1,2,2-Tetrachloroethane	ug/L	8.5	35	78	12000	77000	2970000	ID
1,1,2-Trichloroethane	ug/L	5	5	330	17000	110000	4420000	NA
1,1-Dichloroethane	ug/L	880	2500	740	1000000	2300000	5060000	380000
1,1-Dichloroethene	ug/L	7	7	130	200	1300	2250000	97000
1,2,4-Trichlorobenzene	ug/L	70	70	99	300000	300000	300000	NA
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	0.2	NA	220	1200	1230	NA
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05	0.05	5.7	2400	15000	4200000	ID
1,2-Dichlorobenzene	ug/L	600	600	13	160000	160000	156000	NA
1,2-Dichloroethane	ug/L	5	5	360	9600	59000	8520000	2500000
1,2-Dichloroethene (total)	ug/L	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	ug/L	5	5	230	16000	36000	2800000	550000
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	111000	ID
1,4-Dichlorobenzene	ug/L	75	75	17	16000	74000	73800	NA
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000	38000	2200	240000000	240000000	240000000	ID
2-Hexanone	ug/L	1000	2900	ID	4200000	8700000	16000000	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1800	5200	ID	20000000	20000000	20000000	ID
Acetone	ug/L	730	2100	1700	1000000000	1000000000	1000000000	15000000
Benzene	ug/L	5	5	200	5600	35000	1750000	68000
Bromodichloromethane	ug/L	80	80	ID	4800	37000	6740000	ID
Bromoform	ug/L	80	80	ID	470000	3100000	3100000	ID
Bromomethane (Methyl bromide)	ug/L	10	29	35	4000	9000	14500000	ID
Carbon disulfide	ug/L	800	2300	ID	250000	550000	1190000	13000
Carbon tetrachloride	ug/L	5	5	45	370	2400	793000	ID
Chlorobenzene	ug/L	100	100	25	210000	470000	472000	160000
Chloroethane	ug/L	430	1700	1100	5700000	5700000	5740000	110000
Chloroform (Trichloromethane)	ug/L	80	80	350	28000	180000	7920000	ID
Chloromethane (Methyl chloride)	ug/L	260	1100	ID	8600	45000	6340000	36000
cis-1,2-Dichloroethene	ug/L	70	70	620	93000	210000	3500000	530000
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	80	80	ID	14000	110000	2600000	ID
Dichlorodifluoromethane (CFC-12)	ug/L	1700	4800	ID	220000	300000	300000	ID
Ethylbenzene	ug/L	74	74	18	110000	170000	169000	43000
Isopropyl benzene	ug/L	800	2300	28	56000	56000	56000	29000
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/L	40	40	7100	47000000	47000000	46800000	ID
Methylene chloride	ug/L	5	5	1500	220000	1400000	17000000	ID
Styrene	ug/L	100	100	80	170000	310000	310000	140000
Tetrachloroethene	ug/L	5	5	60	25000	170000	200000	ID
Toluene	ug/L	790	790	270	530000	530000	526000	61000
trans-1,2-Dichloroethene	ug/L	100	100	1500	85000	200000	6300000	230000
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/L	5	5	200	2200	4900	1100000	ID
Trichlorofluoromethane (CFC-11)	ug/L	2600	7300	NA	1100000	1100000	1100000	ID
Trifluorotrichloroethane (Freon 113)	ug/L	170000	170000	32	170000	170000	170000	ID
Vinyl chloride	ug/L	2	2	13	1100	13000	2760000	33000
Xylenes (total)	ug/L	280	280	41	190000	190000	186000	70000

Table 3.2

Summary of Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/L	730	2100	NA	NLV	NLV	1200000	ID
2,4,6-Trichlorophenol	ug/L	120	470	5	NLV	NLV	800000	ID
2,4-Dichlorophenol	ug/L	73	210	11	NLV	NLV	4500000	ID
2,4-Dimethylphenol	ug/L	370	1000	380	NLV	NLV	7870000	ID
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/L	7.7	32	NA	NLV	NLV	270000	ID
2,6-Dinitrotoluene	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/L	1800	5200	NA	ID	ID	6740	ID
2-Chlorophenol	ug/L	45	130	18	ID	ID	22000000	ID
2-Methylnaphthalene	ug/L	260	750	19	25000	25000	24600	ID
2-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
2-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/L	20	58	ID	NLV	NLV	2500000	ID
3,3'-Dichlorobenzidine	ug/L	1.1	4.3	0.3	NLV	NLV	3110	ID
3-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/L	20	20	NA	NLV	NLV	200000	ID
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	150	420	7.4	NLV	NLV	3900000	ID
4-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
4-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/L	1300	3800	38	4200	4200	4240	ID
Acenaphthylene	ug/L	52	150	ID	3900	3900	3930	ID
Acetophenone	ug/L	1500	4400	NA	6100000	6100000	6100000	ID
Anthracene	ug/L	43	43	ID	43	43	43.4	ID
Atrazine	ug/L	3	3	7.3	NLV	NLV	70000	ID
Benzaldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/L	2.1	8.5	ID	NLV	NLV	9.4	ID
Benzo(a)pyrene	ug/L	5	5	ID	NLV	NLV	1.62	ID
Benzo(b)fluoranthene	ug/L	1.5	1.5	ID	ID	ID	1.5	ID
Benzo(g,h,i)perylene	ug/L	1	1	NA	NLV	NLV	0.26	ID
Benzo(k)fluoranthene	ug/L	1	1	NA	NLV	NLV	0.8	ID
Biphenyl (1,1-Biphenyl)	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/L	2	8.3	1	38000	210000	17200000	17000000
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	6	6	25	NLV	NLV	340	NA
Butyl benzylphthalate (BBP)	ug/L	1200	2700	67	NLV	NLV	2690	ID
Caprolactam	ug/L	5800	17000	NA	NLV	NLV	5250000000	NA
Carbazole	ug/L	85	350	10	NLV	NLV	7480	ID
Chrysene	ug/L	1.6	1.6	ID	ID	ID	1.6	ID
Dibenz(a,h)anthracene	ug/L	2	2	ID	NLV	NLV	2.49	ID
Dibenzofuran	ug/L	ID	ID	4	10000	10000	10000	ID
Diethyl phthalate	ug/L	5500	16000	110	NLV	NLV	1080000	NA
Dimethyl phthalate	ug/L	73000	210000	NA	NLV	NLV	4190000	NA
Di-n-butylphthalate (DBP)	ug/L	880	2500	9.7	NLV	NLV	11200	NA
Di-n-octyl phthalate (DnOP)	ug/L	130	380	ID	NLV	NLV	3000	ID

Table 3.2

Summary of Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
SVOCs (continued)								
Fluoranthene	ug/L	210	210	1.6	210	210	206	ID
Fluorene	ug/L	880	2000	12	2000	2000	1980	ID
Hexachlorobenzene	ug/L	1	1	0.2	440	3000	6200	ID
Hexachlorobutadiene	ug/L	15	42	0.053	1600	3200	3230	ID
Hexachlorocyclopentadiene	ug/L	50	50	ID	130	420	1800	ID
Hexachloroethane	ug/L	7.3	21	6.7	27000	50000	50000	ID
Indeno(1,2,3-cd)pyrene	ug/L	2	2	ID	NLV	NLV	0.022	ID
Isophorone	ug/L	770	3100	1300	NLV	NLV	12000000	NA
Naphthalene	ug/L	520	1500	11	31000	31000	31000	NA
Nitrobenzene	ug/L	3.4	9.6	180	280000	550000	2090000	NA
N-Nitrosodi-n-propylamine	ug/L	5	5	NA	NLV	NLV	9890000	ID
N-Nitrosodiphenylamine	ug/L	270	1100	NA	NLV	NLV	35100	ID
Pentachlorophenol	ug/L	1	1	2.8	NLV	NLV	1850000	ID
Phenanthrene	ug/L	52	150	2	1000	1000	1000	ID
Phenol	ug/L	4400	13000	450	NLV	NLV	82800000	NA
Pyrene	ug/L	140	140	ID	140	140	135	ID
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1221 (PCB-1221)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1232 (PCB-1232)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1242 (PCB-1242)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1248 (PCB-1248)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1254 (PCB-1254)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1260 (PCB-1260)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Total PCBs	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Metals								
Antimony	ug/L	6	6	130	NLV	NLV	NA	ID
Antimony (dissolved)	ug/L	6	6	130	NLV	NLV	NA	ID
Arsenic	ug/L	10	10	10	NLV	NLV	NA	ID
Arsenic (dissolved)	ug/L	10	10	10	NLV	NLV	NA	ID
Barium	ug/L	2000	2000	1600	NLV	NLV	NA	ID
Barium (dissolved)	ug/L	2000	2000	1600	NLV	NLV	NA	ID
Beryllium	ug/L	4	4	54	NLV	NLV	NA	ID
Beryllium (dissolved)	ug/L	4	4	54	NLV	NLV	NA	ID
Cadmium	ug/L	5	5	5.6	NLV	NLV	NA	ID
Cadmium (dissolved)	ug/L	5	5	5.6	NLV	NLV	NA	ID
Chromium	ug/L	100	100	11	NLV	NLV	NA	ID
Chromium (dissolved)	ug/L	100	100	11	NLV	NLV	NA	ID
Cobalt	ug/L	40	100	100	NLV	NLV	NA	ID
Cobalt (dissolved)	ug/L	40	100	100	NLV	NLV	NA	ID
Copper	ug/L	1000	1000	26	NLV	NLV	NA	ID
Copper (dissolved)	ug/L	1000	1000	26	NLV	NLV	NA	ID
Iron	ug/L	300	300	NA	NLV	NLV	NA	ID
Iron (dissolved)	ug/L	300	300	NA	NLV	NLV	NA	ID
Lead	ug/L	4	4	54	NLV	NLV	NA	ID
Lead (dissolved)	ug/L	4	4	54	NLV	NLV	NA	ID
Manganese	ug/L	50	50	5800	NLV	NLV	NA	ID

Table 3.2

Summary of Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	**Non-Residential Drinking Water**	**Groundwater Surface Water Interface**	**Residential Groundwater Volatilization to Indoor Air Inhalation**	**Non-Residential Groundwater Volatilization to Indoor Air Inhalation**	**Water Solubility**	**Flammability and Explosivity Screening Levels**
		a	**b**	**c**	**d**	**e**	**f**	**g**
Metals (continued)								
Manganese (dissolved)	ug/L	50	50	5800	NLV	NLV	NA	ID
Mercury	ug/L	2	2	0.0013	56	56	56	ID
Mercury (dissolved)	ug/L	2	2	0.0013	56	56	56	ID
Molybdenum	ug/L	73	210	3200	NLV	NLV	NA	ID
Molybdenum (dissolved)	ug/L	73	210	3200	NLV	NLV	NA	ID
Nickel	ug/L	100	100	150	NLV	NLV	NA	ID
Nickel (dissolved)	ug/L	100	100	150	NLV	NLV	NA	ID
Selenium	ug/L	50	50	5	NLV	NLV	NA	ID
Selenium (dissolved)	ug/L	50	50	5	NLV	NLV	NA	ID
Silver	ug/L	34	98	0.2	NLV	NLV	NA	ID
Silver (dissolved)	ug/L	34	98	0.2	NLV	NLV	NA	ID
Thallium	ug/L	2	2	3.7	NLV	NLV	NA	ID
Thallium (dissolved)	ug/L	2	2	3.7	NLV	NLV	NA	ID
Vanadium	ug/L	4.5	62	27	NLV	NLV	NA	ID
Vanadium (dissolved)	ug/L	4.5	62	27	NLV	NLV	NA	ID
Zinc	ug/L	2400	5000	340	NLV	NLV	NA	ID
Zinc (dissolved)	ug/L	2400	5000	340	NLV	NLV	NA	ID

Notes:

[1] Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.

[2] Carbonate Hardness of 344 mg/L was used to calculate Groundwater Surface Water Interface Criteria.

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

R - Rejected.

-- Parameter was not analyzed.

ID - Insufficient data to develop criterion.

NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

- Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-2**	**86-2**	**86-2**	**86-2**	**86-3**	**86-3**	**86-3**
Sample Identification:		**86-2~30-33~042986**	**86-2~40-43~042986**	**86-2~45-48~043086**	**86-2~27.5-32.5~1/23/1987**	**86-3~63-65~043086**	**86-3~64-69~043086**	**86-3~21-24~050186**
Sample Date:		**4/29/1986**	**4/29/1986**	**4/30/1986**	**1/23/1987**	**4/30/1986**	**4/30/1986**	**5/1/1986**
Sample Type:								
Depth:		**(30-33) ft BGS**	**(40-43) ft BGS**	**(45-48) ft BGS**	**(27.5-32.5) ft BGS**	**(63-65) ft BGS**	**(64-69) ft BGS**	**(21-24) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	5.0 U	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	10 U	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	10 U	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
VOCs (continued)								

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-2**	**86-2**	**86-2**	**86-2**	**86-3**	**86-3**	**86-3**
Sample Identification:		**86-2~30-33~042986**	**86-2~40-43~042986**	**86-2~45-48~043086**	**86-2~27.5-32.5~1/23/1987**	**86-3~63-65~043086**	**86-3~64-69~043086**	**86-3~21-24~050186**
Sample Date:		**4/29/1986**	**4/29/1986**	**4/30/1986**	**1/23/1987**	**4/30/1986**	**4/30/1986**	**5/1/1986**
Sample Type:								
Depth:		**(30-33) ft BGS**	**(40-43) ft BGS**	**(45-48) ft BGS**	**(27.5-32.5) ft BGS**	**(63-65) ft BGS**	**(64-69) ft BGS**	**(21-24) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Trichloroethene	ug/L	**47000[abcde]**	**220[abc]**	**9.8[ab]**	**90000[abcde]**	**15[ab]**	**14[ab]**	**45[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
SVOCs (continued)								

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-2**	**86-2**	**86-2**	**86-2**	**86-3**	**86-3**	**86-3**
Sample Identification:		**86-2~30-33~042986**	**86-2~40-43~042986**	**86-2~45-48~043086**	**86-2~27.5-32.5~1/23/1987**	**86-3~63-65~043086**	**86-3~64-69~043086**	**86-3~21-24~050186**
Sample Date:		**4/29/1986**	**4/29/1986**	**4/30/1986**	**1/23/1987**	**4/30/1986**	**4/30/1986**	**5/1/1986**
Sample Type:								
Depth:		**(30-33) ft BGS**	**(40-43) ft BGS**	**(45-48) ft BGS**	**(27.5-32.5) ft BGS**	**(63-65) ft BGS**	**(64-69) ft BGS**	**(21-24) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	**36**[abc]	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	13	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	**3**[c]	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	**4**[c]	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	2	--	--	--
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-2**	**86-2**	**86-2**	**86-2**	**86-3**	**86-3**	**86-3**
Sample Identification:		**86-2~30-33~042986**	**86-2~40-43~042986**	**86-2~45-48~043086**	**86-2~27.5-32.5~1/23/1987**	**86-3~63-65~043086**	**86-3~64-69~043086**	**86-3~21-24~050186**
Sample Date:		**4/29/1986**	**4/29/1986**	**4/30/1986**	**1/23/1987**	**4/30/1986**	**4/30/1986**	**5/1/1986**
Sample Type:								
Depth:		**(30-33) ft BGS**	**(40-43) ft BGS**	**(45-48) ft BGS**	**(27.5-32.5) ft BGS**	**(63-65) ft BGS**	**(64-69) ft BGS**	**(21-24) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-3**	**86-3**	**86-3**	**87-1**	**87-1**	**87-1**
Sample Identification:		**86-3~34-36~050186**	**86-3~44-46~050186**	**86-3~53-55~050186**	**87-1~25.0-28.0~1/13/1987**	**87-1~34.5-37.5~1/13/1987**	**87-1~43.5-46.5~1/13/1987**
Sample Date:		**5/1/1986**	**5/1/1986**	**5/1/1986**	**1/13/1987**	**1/13/1987**	**1/13/1987**
Sample Type:							
Depth:		**(34-36) ft BGS**	**(44-46) ft BGS**	**(53-55) ft BGS**	**(25-28) ft BGS**	**(34.5-37.5) ft BGS**	**(43.5-46.5) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
VOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-3**	**86-3**	**86-3**	**87-1**	**87-1**	**87-1**
Sample Identification:		**86-3~34-36~050186**	**86-3~44-46~050186**	**86-3~53-55~050186**	**87-1~25.0-28.0~1/13/1987**	**87-1~34.5-37.5~1/13/1987**	**87-1~43.5-46.5~1/13/1987**
Sample Date:		**5/1/1986**	**5/1/1986**	**5/1/1986**	**1/13/1987**	**1/13/1987**	**1/13/1987**
Sample Type:							
Depth:		**(34-36) ft BGS**	**(44-46) ft BGS**	**(53-55) ft BGS**	**(25-28) ft BGS**	**(34.5-37.5) ft BGS**	**(43.5-46.5) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	**210[abc]**	**600[abc]**	**230[abc]**	**280[abc]**	**120[ab]**	**140[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-3**	**86-3**	**86-3**	**87-1**	**87-1**	**87-1**
Sample Identification:		**86-3~34-36~050186**	**86-3~44-46~050186**	**86-3~53-55~050186**	**87-1~25.0-28.0~1/13/1987**	**87-1~34.5-37.5~1/13/1987**	**87-1~43.5-46.5~1/13/1987**
Sample Date:		**5/1/1986**	**5/1/1986**	**5/1/1986**	**1/13/1987**	**1/13/1987**	**1/13/1987**
Sample Type:							
Depth:		**(34-36) ft BGS**	**(44-46) ft BGS**	**(53-55) ft BGS**	**(25-28) ft BGS**	**(34.5-37.5) ft BGS**	**(43.5-46.5) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**86-3**	**86-3**	**86-3**	**87-1**	**87-1**	**87-1**
Sample Identification:		**86-3~34-36~050186**	**86-3~44-46~050186**	**86-3~53-55~050186**	**87-1~25.0-28.0~1/13/1987**	**87-1~34.5-37.5~1/13/1987**	**87-1~43.5-46.5~1/13/1987**
Sample Date:		**5/1/1986**	**5/1/1986**	**5/1/1986**	**1/13/1987**	**1/13/1987**	**1/13/1987**
Sample Type:							
Depth:		**(34-36) ft BGS**	**(44-46) ft BGS**	**(53-55) ft BGS**	**(25-28) ft BGS**	**(34.5-37.5) ft BGS**	**(43.5-46.5) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**87-1**	**87-1**	**87-2**	**87-2**	**87-2**	**87-2**
Sample Identification:		**87-1~24.0-29.0~1/14/1987**	**87-1~24.0-29.0~1/23/1987**	**87-2~25.0-28.5~1/14/1987**	**87-2~35.0-38.5~1/14/1987**	**87-2~43.0-46.0~1/14/1987**	**87-2~33.0-38.0~1/15/1987**
Sample Date:		**1/14/1987**	**1/23/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/15/1987**
Sample Type:							
Depth:		**(24-29) ft BGS**	**(24-29) ft BGS**	**(25-28.5) ft BGS**	**(35-28.5) ft BGS**	**(43-46) ft BGS**	**(33-38) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	5.0 U	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	10 U	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	16	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--

VOCs (continued)

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**87-1**	**87-1**	**87-2**	**87-2**	**87-2**	**87-2**
Sample Identification:		**87-1~24.0-29.0~1/14/1987**	**87-1~24.0-29.0~1/23/1987**	**87-2~25.0-28.5~1/14/1987**	**87-2~35.0-38.5~1/14/1987**	**87-2~43.0-46.0~1/14/1987**	**87-2~33.0-38.0~1/15/1987**
Sample Date:		**1/14/1987**	**1/23/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/15/1987**
Sample Type:							
Depth:		**(24-29) ft BGS**	**(24-29) ft BGS**	**(25-28.5) ft BGS**	**(35-28.5) ft BGS**	**(43-46) ft BGS**	**(33-38) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	**1300[abc]**	**1200[abc]**	**6.6[ab]**	**54[ab]**	**9.5[ab]**	**45[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**87-1**	**87-1**	**87-2**	**87-2**	**87-2**	**87-2**
Sample Identification:		**87-1~24.0-29.0~1/14/1987**	**87-1~24.0-29.0~1/23/1987**	**87-2~25.0-28.5~1/14/1987**	**87-2~35.0-38.5~1/14/1987**	**87-2~43.0-46.0~1/14/1987**	**87-2~33.0-38.0~1/15/1987**
Sample Date:		**1/14/1987**	**1/23/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/15/1987**
Sample Type:							
Depth:		**(24-29) ft BGS**	**(24-29) ft BGS**	**(25-28.5) ft BGS**	**(35-28.5) ft BGS**	**(43-46) ft BGS**	**(33-38) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	2.0 U	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	3.0 U	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	1.0 U	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	**3[c]**	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	1.0 U	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**87-1**	**87-1**	**87-2**	**87-2**	**87-2**	**87-2**
Sample Identification:		**87-1~24.0-29.0~1/14/1987**	**87-1~24.0-29.0~1/23/1987**	**87-2~25.0-28.5~1/14/1987**	**87-2~35.0-38.5~1/14/1987**	**87-2~43.0-46.0~1/14/1987**	**87-2~33.0-38.0~1/15/1987**
Sample Date:		**1/14/1987**	**1/23/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/15/1987**
Sample Type:							
Depth:		**(24-29) ft BGS**	**(24-29) ft BGS**	**(25-28.5) ft BGS**	**(35-28.5) ft BGS**	**(43-46) ft BGS**	**(33-38) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**87-2**	**87-4**	**87-4**	**87-4**	**87-4**	**87-4**
Sample Identification:		**87-2~33.2-38.2~1/23/1987**	**87-4~22.3-24.3~1/19/1987**	**87-4~32.0-35.0~1/19/1987**	**87-4~42.0-45.0~1/19/1987**	**87-4~51.5-54.5~1/20/1987**	**87-4~24.0-27.0~1/23/1987**
Sample Date:		**1/23/1987**	**1/19/1987**	**1/19/1987**	**1/19/1987**	**1/20/1987**	**1/23/1987**
Sample Type:							
Depth:		**(33.2-38.2) ft BGS**	**(22.3-24.3) ft BGS**	**(32-35) ft BGS**	**(42-45) ft BGS**	**(51.5-54.5) ft BGS**	**(24-27) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	--	--	1.0 U
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	2.0 U	--	--	--	--	2.0 U
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	12	--	--	--	--	2.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
VOCs (continued)							

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-2**	**87-4**	**87-4**	**87-4**	**87-4**	**87-4**
Sample Identification:		**87-2~33.2-38.2~1/23/1987**	**87-4~22.3-24.3~1/19/1987**	**87-4~32.0-35.0~1/19/1987**	**87-4~42.0-45.0~1/19/1987**	**87-4~51.5-54.5~1/20/1987**	**87-4~24.0-27.0~1/23/1987**
Sample Date:		**1/23/1987**	**1/19/1987**	**1/19/1987**	**1/19/1987**	**1/20/1987**	**1/23/1987**
Sample Type:							
Depth:		**(33.2-38.2) ft BGS**	**(22.3-24.3) ft BGS**	**(32-35) ft BGS**	**(42-45) ft BGS**	**(51.5-54.5) ft BGS**	**(24-27) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	**65[ab]**	**220[abc]**	**8.3[ab]**	1.3	4.9	**87[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-2**	**87-4**	**87-4**	**87-4**	**87-4**	**87-4**
Sample Identification:		**87-2~33.2-38.2~1/23/1987**	**87-4~22.3-24.3~1/19/1987**	**87-4~32.0-35.0~1/19/1987**	**87-4~42.0-45.0~1/19/1987**	**87-4~51.5-54.5~1/20/1987**	**87-4~24.0-27.0~1/23/1987**
Sample Date:		**1/23/1987**	**1/19/1987**	**1/19/1987**	**1/19/1987**	**1/20/1987**	**1/23/1987**
Sample Type:							
Depth:		**(33.2-38.2) ft BGS**	**(22.3-24.3) ft BGS**	**(32-35) ft BGS**	**(42-45) ft BGS**	**(51.5-54.5) ft BGS**	**(24-27) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	**9[ab]**	--	--	--	--	**29[abc]**
Butyl benzylphthalate (BBP)	ug/L	16	--	--	--	--	3.0 U
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	**3[c]**	--	--	--	--	**2[c]**
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	1.0 U	--	--	--	--	1.0 U
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	2	--	--	--	--	2
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-2**	**87-4**	**87-4**	**87-4**	**87-4**	**87-4**
Sample Identification:		**87-2~33.2-38.2~1/23/1987**	**87-4~22.3-24.3~1/19/1987**	**87-4~32.0-35.0~1/19/1987**	**87-4~42.0-45.0~1/19/1987**	**87-4~51.5-54.5~1/20/1987**	**87-4~24.0-27.0~1/23/1987**
Sample Date:		**1/23/1987**	**1/19/1987**	**1/19/1987**	**1/19/1987**	**1/20/1987**	**1/23/1987**
Sample Type:							
Depth:		**(33.2-38.2) ft BGS**	**(22.3-24.3) ft BGS**	**(32-35) ft BGS**	**(42-45) ft BGS**	**(51.5-54.5) ft BGS**	**(24-27) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-5**	**87-5**	**87-5**	**87-5**	**87-5**	**87-8**
Sample Identification:		**87-5~22.0-24.0~1/22/1987**	**87-5~31.0-34.0~1/22/1987**	**87-5~41.0-44.0~1/22/1987**	**87-5~51.0-54.0~1/22/1987**	**87-5~39.5-50.5~1/30/1987**	**87-8~18.7-19.7~011387**
Sample Date:		**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/30/1987**	**1/13/1987**
Sample Type:							
Depth:		**(22-24) ft BGS**	**(31-34) ft BGS**	**(41-44) ft BGS**	**(51-54) ft BGS**	**(39.5-50.5) ft BGS**	**(18.7-19.7) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	3	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	2.0 U	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	2.0 U	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
VOCs (continued)							

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-5**	**87-5**	**87-5**	**87-5**	**87-5**	**87-8**
Sample Identification:		**87-5~22.0-24.0~1/22/1987**	**87-5~31.0-34.0~1/22/1987**	**87-5~41.0-44.0~1/22/1987**	**87-5~51.0-54.0~1/22/1987**	**87-5~39.5-50.5~1/30/1987**	**87-8~18.7-19.7~011387**
Sample Date:		**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/30/1987**	**1/13/1987**
Sample Type:							
Depth:		**(22-24) ft BGS**	**(31-34) ft BGS**	**(41-44) ft BGS**	**(51-54) ft BGS**	**(39.5-50.5) ft BGS**	**(18.7-19.7) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**
Trichloroethene	ug/L	**1900[abc]**	**15[ab]**	**57[ab]**	**490[abc]**	**70[ab]**	**17[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-5**	**87-5**	**87-5**	**87-5**	**87-5**	**87-8**
Sample Identification:		**87-5~22.0-24.0~1/22/1987**	**87-5~31.0-34.0~1/22/1987**	**87-5~41.0-44.0~1/22/1987**	**87-5~51.0-54.0~1/22/1987**	**87-5~39.5-50.5~1/30/1987**	**87-8~18.7-19.7~011387**
Sample Date:		**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/30/1987**	**1/13/1987**
Sample Type:							
Depth:		**(22-24) ft BGS**	**(31-34) ft BGS**	**(41-44) ft BGS**	**(51-54) ft BGS**	**(39.5-50.5) ft BGS**	**(18.7-19.7) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	2.0 U	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	3.0 U	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	1.0 U	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	1.0 U	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	1.0 U	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-5**	**87-5**	**87-5**	**87-5**	**87-5**	**87-8**
Sample Identification:		**87-5~22.0-24.0~1/22/1987**	**87-5~31.0-34.0~1/22/1987**	**87-5~41.0-44.0~1/22/1987**	**87-5~51.0-54.0~1/22/1987**	**87-5~39.5-50.5~1/30/1987**	**87-8~18.7-19.7~011387**
Sample Date:		**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/22/1987**	**1/30/1987**	**1/13/1987**
Sample Type:							
Depth:		**(22-24) ft BGS**	**(31-34) ft BGS**	**(41-44) ft BGS**	**(51-54) ft BGS**	**(39.5-50.5) ft BGS**	**(18.7-19.7) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.3**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		87-8	87-8	87-8	87-8	87-9	87-9	87-9	87-9
Sample Identification:		87-8~28-31~011387	87-8~38-41~011387	87-8~48-51~011387	87-8~58-61~011387	87-9~16-17.5~011487	87-9~22-25~011487	87-9~32-35~011487	87-9~41-44~011487
Sample Date:		1/13/1987	1/13/1987	1/13/1987	1/13/1987	1/14/1987	1/14/1987	1/14/1987	1/14/1987
Sample Type:									
Depth:		(28-31) ft BGS	(38-41) ft BGS	(48-51) ft BGS	(58-61) ft BGS	(16-17.5) ft BGS	(22-25) ft BGS	(32-35) ft BGS	(41-44) ft BGS
AOI:		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
VOCs (continued)									

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**87-8**	**87-8**	**87-8**	**87-8**	**87-9**	**87-9**	**87-9**	**87-9**
Sample Identification:		**87-8~28-31~011387**	**87-8~38-41~011387**	**87-8~48-51~011387**	**87-8~58-61~011387**	**87-9~16-17.5~011487**	**87-9~22-25~011487**	**87-9~32-35~011487**	**87-9~41-44~011487**
Sample Date:		**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**
Sample Type:									
Depth:		**(28-31) ft BGS**	**(38-41) ft BGS**	**(48-51) ft BGS**	**(58-61) ft BGS**	**(16-17.5) ft BGS**	**(22-25) ft BGS**	**(32-35) ft BGS**	**(41-44) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Trichloroethene	ug/L	**5.4[ab]**	1.0 U	1.0 U	**5.2[ab]**	**14[ab]**	**42[ab]**	**27[ab]**	**41[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
SVOCs (continued)									

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-8**	**87-8**	**87-8**	**87-8**	**87-9**	**87-9**	**87-9**	**87-9**
Sample Identification:		**87-8~28-31~011387**	**87-8~38-41~011387**	**87-8~48-51~011387**	**87-8~58-61~011387**	**87-9~16-17.5~011487**	**87-9~22-25~011487**	**87-9~32-35~011487**	**87-9~41-44~011487**
Sample Date:		**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**
Sample Type:									
Depth:		**(28-31) ft BGS**	**(38-41) ft BGS**	**(48-51) ft BGS**	**(58-61) ft BGS**	**(16-17.5) ft BGS**	**(22-25) ft BGS**	**(32-35) ft BGS**	**(41-44) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-8**	**87-8**	**87-8**	**87-8**	**87-9**	**87-9**	**87-9**	**87-9**
Sample Identification:		**87-8~28-31~011387**	**87-8~38-41~011387**	**87-8~48-51~011387**	**87-8~58-61~011387**	**87-9~16-17.5~011487**	**87-9~22-25~011487**	**87-9~32-35~011487**	**87-9~41-44~011487**
Sample Date:		**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/13/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**	**1/14/1987**
Sample Type:									
Depth:		**(28-31) ft BGS**	**(38-41) ft BGS**	**(48-51) ft BGS**	**(58-61) ft BGS**	**(16-17.5) ft BGS**	**(22-25) ft BGS**	**(32-35) ft BGS**	**(41-44) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-9**	**87-9**	**87-9**	**87-10**	**87-10**	**87-10**	**87-10**
Sample Identification:		**87-9~52-55~011587**	**87-9~62-65~011587**	**87-9~72-75~011587**	**87-10~19.5-22.5~092887**	**87-10~29-32~092887**	**87-10~38.5-41.5~092887**	**87-10~48-51~092987**
Sample Date:		**1/15/1987**	**1/15/1987**	**1/15/1987**	**9/28/1987**	**9/28/1987**	**9/28/1987**	**9/29/1987**
Sample Type:								
Depth:		**(52-55) ft BGS**	**(62-65) ft BGS**	**(72-75) ft BGS**	**(19.5-22.5) ft BGS**	**(29-32) ft BGS**	**(38.5-41.5) ft BGS**	**(48-51) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	3	8	2 U	2 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
VOCs (continued)								

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-9**	**87-9**	**87-9**	**87-10**	**87-10**	**87-10**	**87-10**
Sample Identification:		**87-9~52-55~011587**	**87-9~62-65~011587**	**87-9~72-75~011587**	**87-10~19.5-22.5~092887**	**87-10~29-32~092887**	**87-10~38.5-41.5~092887**	**87-10~48-51~092987**
Sample Date:		**1/15/1987**	**1/15/1987**	**1/15/1987**	**9/28/1987**	**9/28/1987**	**9/28/1987**	**9/29/1987**
Sample Type:								
Depth:		**(52-55) ft BGS**	**(62-65) ft BGS**	**(72-75) ft BGS**	**(19.5-22.5) ft BGS**	**(29-32) ft BGS**	**(38.5-41.5) ft BGS**	**(48-51) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	**63[ab]**	**19[ab]**	2.9	**81[ab]**	**91[ab]**	**37[ab]**	**24[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	10 U	10 U	10 U	10 U
Xylenes (total)	ug/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
SVOCs (continued)								

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-9**	**87-9**	**87-9**	**87-10**	**87-10**	**87-10**	**87-10**
Sample Identification:		**87-9~52-55~011587**	**87-9~62-65~011587**	**87-9~72-75~011587**	**87-10~19.5-22.5~092887**	**87-10~29-32~092887**	**87-10~38.5-41.5~092887**	**87-10~48-51~092987**
Sample Date:		**1/15/1987**	**1/15/1987**	**1/15/1987**	**9/28/1987**	**9/28/1987**	**9/28/1987**	**9/29/1987**
Sample Type:								
Depth:		**(52-55) ft BGS**	**(62-65) ft BGS**	**(72-75) ft BGS**	**(19.5-22.5) ft BGS**	**(29-32) ft BGS**	**(38.5-41.5) ft BGS**	**(48-51) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-9**	**87-9**	**87-9**	**87-10**	**87-10**	**87-10**	**87-10**
Sample Identification:		**87-9~52-55~011587**	**87-9~62-65~011587**	**87-9~72-75~011587**	**87-10~19.5-22.5~092887**	**87-10~29-32~092887**	**87-10~38.5-41.5~092887**	**87-10~48-51~092987**
Sample Date:		**1/15/1987**	**1/15/1987**	**1/15/1987**	**9/28/1987**	**9/28/1987**	**9/28/1987**	**9/29/1987**
Sample Type:								
Depth:		**(52-55) ft BGS**	**(62-65) ft BGS**	**(72-75) ft BGS**	**(19.5-22.5) ft BGS**	**(29-32) ft BGS**	**(38.5-41.5) ft BGS**	**(48-51) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-10**	**87-11**	**87-11**	**87-11**	**87-11**	**87-12**	**87-12**
Sample Identification:		**87-10~58-61~092987**	**87-11~18-21~093087**	**87-11~28-31~093087**	**87-11~36.4-39.4~100187**	**87-11~48-51~100187**	**87-12~19-22~100587**	**87-12~29-32~100587**
Sample Date:		**9/29/1987**	**9/30/1987**	**9/30/1987**	**10/1/1987**	**10/1/1987**	**10/5/1987**	**10/5/1987**
Sample Type:								
Depth:		**(58-61) ft BGS**	**(18-21) ft BGS**	**(28-31) ft BGS**	**(36.4-39.4) ft BGS**	**(48-51) ft BGS**	**(19-22) ft BGS**	**(29-32) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2 U	17	29	26	13	2 U	2 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
VOCs (continued)								

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-10**	**87-11**	**87-11**	**87-11**	**87-11**	**87-12**	**87-12**
Sample Identification:		**87-10~58-61~092987**	**87-11~18-21~093087**	**87-11~28-31~093087**	**87-11~36.4-39.4~100187**	**87-11~48-51~100187**	**87-12~19-22~100587**	**87-12~29-32~100587**
Sample Date:		**9/29/1987**	**9/30/1987**	**9/30/1987**	**10/1/1987**	**10/1/1987**	**10/5/1987**	**10/5/1987**
Sample Type:								
Depth:		**(58-61) ft BGS**	**(18-21) ft BGS**	**(28-31) ft BGS**	**(36.4-39.4) ft BGS**	**(48-51) ft BGS**	**(19-22) ft BGS**	**(29-32) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	**32[ab]**	2 U	**260[abc]**	**170[ab]**	**46[ab]**	2 U	2 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--
Vinyl chloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (total)	ug/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
SVOCs (continued)								

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-10**	**87-11**	**87-11**	**87-11**	**87-11**	**87-12**	**87-12**
Sample Identification:		**87-10~58-61~092987**	**87-11~18-21~093087**	**87-11~28-31~093087**	**87-11~36.4-39.4~100187**	**87-11~48-51~100187**	**87-12~19-22~100587**	**87-12~29-32~100587**
Sample Date:		**9/29/1987**	**9/30/1987**	**9/30/1987**	**10/1/1987**	**10/1/1987**	**10/5/1987**	**10/5/1987**
Sample Type:								
Depth:		**(58-61) ft BGS**	**(18-21) ft BGS**	**(28-31) ft BGS**	**(36.4-39.4) ft BGS**	**(48-51) ft BGS**	**(19-22) ft BGS**	**(29-32) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**87-10**	**87-11**	**87-11**	**87-11**	**87-11**	**87-12**	**87-12**
Sample Identification:		**87-10~58-61~092987**	**87-11~18-21~093087**	**87-11~28-31~093087**	**87-11~36.4-39.4~100187**	**87-11~48-51~100187**	**87-12~19-22~100587**	**87-12~29-32~100587**
Sample Date:		**9/29/1987**	**9/30/1987**	**9/30/1987**	**10/1/1987**	**10/1/1987**	**10/5/1987**	**10/5/1987**
Sample Type:								
Depth:		**(58-61) ft BGS**	**(18-21) ft BGS**	**(28-31) ft BGS**	**(36.4-39.4) ft BGS**	**(48-51) ft BGS**	**(19-22) ft BGS**	**(29-32) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-1**	**88-1**	**88-1**	**88-2**	**88-2**	**88-2**	**88-3**	**88-3**	**88-3**	**88-4**
Sample Identification:		**W-88-1**	**W-88-1**	**W-88-1**	**W-88-2**	**W-88-2**	**W-88-2**	**88-3~12-15~040188**	**W-88-3**	**W-88-3**	**88-4~9-12~040488**
Sample Date:		**3/30/1988**	**3/30/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**4/1/1988**	**4/1/1988**	**4/1/1988**	**4/4/1988**
Sample Type:											
Depth:		**(12-13) ft BGS**	**(22-23) ft BGS**	**(29-32) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(9-12) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--	--
VOCs (continued)											

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-1**	**88-1**	**88-1**	**88-2**	**88-2**	**88-2**	**88-3**	**88-3**	**88-3**	**88-4**
Sample Identification:		**W-88-1**	**W-88-1**	**W-88-1**	**W-88-2**	**W-88-2**	**W-88-2**	**88-3~12-15~040188**	**W-88-3**	**W-88-3**	**88-4~9-12~040488**
Sample Date:		**3/30/1988**	**3/30/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**4/1/1988**	**4/1/1988**	**4/1/1988**	**4/4/1988**
Sample Type:											
Depth:		**(12-13) ft BGS**	**(22-23) ft BGS**	**(29-32) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(9-12) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**
Trichloroethene	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
SVOCs (continued)											

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		88-1	88-1	88-1	88-2	88-2	88-2	88-3	88-3	88-3	88-4
Sample Identification:		W-88-1	W-88-1	W-88-1	W-88-2	W-88-2	W-88-2	88-3~12-15~040188	W-88-3	W-88-3	88-4~9-12~040488
Sample Date:		3/30/1988	3/30/1988	3/31/1988	3/31/1988	3/31/1988	3/31/1988	4/1/1988	4/1/1988	4/1/1988	4/4/1988
Sample Type:											
Depth:		(12-13) ft BGS	(22-23) ft BGS	(29-32) ft BGS	(12-15) ft BGS	(22-25) ft BGS	(30-31) ft BGS	(12-15) ft BGS	(22-25) ft BGS	(30-31) ft BGS	(9-12) ft BGS
AOI:		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
PCBs											
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-1**	**88-1**	**88-1**	**88-2**	**88-2**	**88-2**	**88-3**	**88-3**	**88-3**	**88-4**
Sample Identification:		**W-88-1**	**W-88-1**	**W-88-1**	**W-88-2**	**W-88-2**	**W-88-2**	**88-3~12-15~040188**	**W-88-3**	**W-88-3**	**88-4~9-12~040488**
Sample Date:		**3/30/1988**	**3/30/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**3/31/1988**	**4/1/1988**	**4/1/1988**	**4/1/1988**	**4/4/1988**
Sample Type:											
Depth:		**(12-13) ft BGS**	**(22-23) ft BGS**	**(29-32) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(12-15) ft BGS**	**(22-25) ft BGS**	**(30-31) ft BGS**	**(9-12) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**
Metals											
Antimony	ug/L	--	--	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-4**	**88-4**	**88-4**	**BH1**	**BH1**	**BH1**	**BH1**
Sample Identification:		**W-88-4**	**88-4~18-21~040488**	**W-88-4**	**BH1~21-24~100581**	**BH1~25.5-28.5~100581**	**BH1~30.5-32.5~100581**	**BH1~40.5-43.5~100581**
Sample Date:		**4/4/1988**	**4/4/1988**	**4/4/1988**	**10/5/1981**	**10/5/1981**	**10/5/1981**	**10/5/1981**
Sample Type:								
Depth:		**(9-12) ft BGS**	**(18-21) ft BGS**	**(18-21) ft BGS**	**(21-24) ft BGS**	**(25.5-28.5) ft BGS**	**(30.5-32.5) ft BGS**	**(40.5-43.5) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2 U	2 U	2 U	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--

VOCs (continued)

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-4**	**88-4**	**88-4**	**BH1**	**BH1**	**BH1**	**BH1**
Sample Identification:		**W-88-4**	**88-4~18-21~040488**	**W-88-4**	**BH1~21-24~100581**	**BH1~25.5-28.5~100581**	**BH1~30.5-32.5~100581**	**BH1~40.5-43.5~100581**
Sample Date:		**4/4/1988**	**4/4/1988**	**4/4/1988**	**10/5/1981**	**10/5/1981**	**10/5/1981**	**10/5/1981**
Sample Type:								
Depth:		**(9-12) ft BGS**	**(18-21) ft BGS**	**(18-21) ft BGS**	**(21-24) ft BGS**	**(25.5-28.5) ft BGS**	**(30.5-32.5) ft BGS**	**(40.5-43.5) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**
Trichloroethene	ug/L	2 U	2 U	2 U	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--
Vinyl chloride	ug/L	10 U	10 U	10 U	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
SVOCs (continued)								

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-4**	**88-4**	**88-4**	**BH1**	**BH1**	**BH1**	**BH1**
Sample Identification:		**W-88-4**	**88-4~18-21~040488**	**W-88-4**	**BH1~21-24~100581**	**BH1~25.5-28.5~100581**	**BH1~30.5-32.5~100581**	**BH1~40.5-43.5~100581**
Sample Date:		**4/4/1988**	**4/4/1988**	**4/4/1988**	**10/5/1981**	**10/5/1981**	**10/5/1981**	**10/5/1981**
Sample Type:								
Depth:		**(9-12) ft BGS**	**(18-21) ft BGS**	**(18-21) ft BGS**	**(21-24) ft BGS**	**(25.5-28.5) ft BGS**	**(30.5-32.5) ft BGS**	**(40.5-43.5) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**88-4**	**88-4**	**88-4**	**BH1**	**BH1**	**BH1**	**BH1**
Sample Identification:		**W-88-4**	**88-4~18-21~040488**	**W-88-4**	**BH1~21-24~100581**	**BH1~25.5-28.5~100581**	**BH1~30.5-32.5~100581**	**BH1~40.5-43.5~100581**
Sample Date:		**4/4/1988**	**4/4/1988**	**4/4/1988**	**10/5/1981**	**10/5/1981**	**10/5/1981**	**10/5/1981**
Sample Type:								
Depth:		**(9-12) ft BGS**	**(18-21) ft BGS**	**(18-21) ft BGS**	**(21-24) ft BGS**	**(25.5-28.5) ft BGS**	**(30.5-32.5) ft BGS**	**(40.5-43.5) ft BGS**
AOI:		**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 25, AOI 3**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**	**AOI 5, AOI 19, AOI 4.1**
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP1-03**	**HP1-03**	**HP1-03**	**HP1-03**	**HP2-03**	**HP2-03**
Sample Identification:		**GW-17360-061303-BW-020**	**GW-17360-061303-BW-021**	**GW-17360-061303-BW-022**	**GW-17360-061303-BW-024**	**GW-17360-061203-BW-017**	**GW-17360-061203-BW-018**
Sample Date:		**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/12/2003**	**6/12/2003**
Sample Type:			**Duplicate**				
Depth:		**(24-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**	**(41-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	50 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	100 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	100 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	50 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	2.0 U	1.7	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	20 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**7.0**[ab]	**7.1**[ab]	**66**[abc]	1.5	**31**[ab]	**7.2**[ab]
Toluene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		HP1-03	HP1-03	HP1-03	HP1-03	HP2-03	HP2-03
Sample Identification:		GW-17360-061303-BW-020	GW-17360-061303-BW-021	GW-17360-061303-BW-022	GW-17360-061303-BW-024	GW-17360-061203-BW-017	GW-17360-061203-BW-018
Sample Date:		6/13/2003	6/13/2003	6/13/2003	6/13/2003	6/12/2003	6/12/2003
Sample Type:			Duplicate				
Depth:		(24-) ft BGS	(24-) ft BGS	(34-) ft BGS	(41-) ft BGS	(24-) ft BGS	(34-) ft BGS
AOI:		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Trichloroethene	ug/L	3.8	3.8	2.2	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	6.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP1-03**	**HP1-03**	**HP1-03**	**HP1-03**	**HP2-03**	**HP2-03**
Sample Identification:		**GW-17360-061303-BW-020**	**GW-17360-061303-BW-021**	**GW-17360-061303-BW-022**	**GW-17360-061303-BW-024**	**GW-17360-061203-BW-017**	**GW-17360-061203-BW-018**
Sample Date:		**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/12/2003**	**6/12/2003**
Sample Type:			**Duplicate**				
Depth:		**(24-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**	**(41-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP1-03**	**HP1-03**	**HP1-03**	**HP1-03**	**HP2-03**	**HP2-03**
Sample Identification:		**GW-17360-061303-BW-020**	**GW-17360-061303-BW-021**	**GW-17360-061303-BW-022**	**GW-17360-061303-BW-024**	**GW-17360-061203-BW-017**	**GW-17360-061203-BW-018**
Sample Date:		**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/13/2003**	**6/12/2003**	**6/12/2003**
Sample Type:			**Duplicate**				
Depth:		**(24-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**	**(41-) ft BGS**	**(24-) ft BGS**	**(34-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP2-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**
Sample Identification:		**GW-17360-061203-BW-019**	**GW-17360-061603-BW-025**	**GW-17360-061603-BW-026**	**GW-17360-061603-BW-027**	**GW-17360-061603-BW-028**	**GW-17360-061603-BW-029**
Sample Date:		**6/12/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**
Sample Type:						**Duplicate**	
Depth:		**(41-) ft BGS**	**(18-) ft BGS**	**(28-) ft BGS**	**(38-) ft BGS**	**(38-) ft BGS**	**(43-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.1	1.4	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		HP2-03	HP3-03	HP3-03	HP3-03	HP3-03	HP3-03
Sample Identification:		GW-17360-061203-BW-019	GW-17360-061603-BW-025	GW-17360-061603-BW-026	GW-17360-061603-BW-027	GW-17360-061603-BW-028	GW-17360-061603-BW-029
Sample Date:		6/12/2003	6/16/2003	6/16/2003	6/16/2003	6/16/2003	6/16/2003
Sample Type:						Duplicate	
Depth:		(41-) ft BGS	(18-) ft BGS	(28-) ft BGS	(38-) ft BGS	(38-) ft BGS	(43-) ft BGS
AOI:		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP2-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**
Sample Identification:		**GW-17360-061203-BW-019**	**GW-17360-061603-BW-025**	**GW-17360-061603-BW-026**	**GW-17360-061603-BW-027**	**GW-17360-061603-BW-028**	**GW-17360-061603-BW-029**
Sample Date:		**6/12/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**
Sample Type:						**Duplicate**	
Depth:		**(41-) ft BGS**	**(18-) ft BGS**	**(28-) ft BGS**	**(38-) ft BGS**	**(38-) ft BGS**	**(43-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP2-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**	**HP3-03**
Sample Identification:		**GW-17360-061203-BW-019**	**GW-17360-061603-BW-025**	**GW-17360-061603-BW-026**	**GW-17360-061603-BW-027**	**GW-17360-061603-BW-028**	**GW-17360-061603-BW-029**
Sample Date:		**6/12/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**	**6/16/2003**
Sample Type:						**Duplicate**	
Depth:		**(41-) ft BGS**	**(18-) ft BGS**	**(28-) ft BGS**	**(38-) ft BGS**	**(38-) ft BGS**	**(43-) ft BGS**
AOI:		**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**	**AOI 25, AOI 1, AOI 4.1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP5-03**
Sample Identification:		**GW-17360-061103-BW-012**	**GW-17360-061103-BW-013**	**GW-17360-061103-BW-014**	**GW-17360-061103-BW-015**	**GW-17360-061103-BW-016**	**GW-17360-061003-BW-006**
Sample Date:		**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/10/2003**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	9.3	9.3	9.3	1.0 U	2.4	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	36	35	37	2.4	11	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	4.7	4.4	3.7	1.0 U	1.1	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Wyoming, Michigan

Sample Location:		**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP5-03**
Sample Identification:		**GW-17360-061103-BW-012**	**GW-17360-061103-BW-013**	**GW-17360-061103-BW-014**	**GW-17360-061103-BW-015**	**GW-17360-061103-BW-016**	**GW-17360-061003-BW-006**
Sample Date:		**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/10/2003**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP5-03**
Sample Identification:		**GW-17360-061103-BW-012**	**GW-17360-061103-BW-013**	**GW-17360-061103-BW-014**	**GW-17360-061103-BW-015**	**GW-17360-061103-BW-016**	**GW-17360-061003-BW-006**
Sample Date:		**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/10/2003**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP4-03**	**HP5-03**
Sample Identification:		**GW-17360-061103-BW-012**	**GW-17360-061103-BW-013**	**GW-17360-061103-BW-014**	**GW-17360-061103-BW-015**	**GW-17360-061103-BW-016**	**GW-17360-061003-BW-006**
Sample Date:		**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/11/2003**	**6/10/2003**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

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Wyoming, Michigan

Sample Location:		**HP5-03**	**HP5-03**	**HP5-03**	**HP5-03**	**HP6-03**	**HP6-03**
Sample Identification:		**GW-17360-061003-BW-007**	**GW-17360-061003-BW-008**	**GW-17360-061003-BW-009**	**GW-17360-061003-BW-011**	**GW-17360-060903-BW-001**	**GW-17360-060903-BW-002**
Sample Date:		**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/9/2003**	**6/9/2003**
Sample Type:							
Depth:		**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(62-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.2	1.0 U	1.2	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.1
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**HP5-03**	**HP5-03**	**HP5-03**	**HP5-03**	**HP6-03**	**HP6-03**
Sample Identification:		**GW-17360-061003-BW-007**	**GW-17360-061003-BW-008**	**GW-17360-061003-BW-009**	**GW-17360-061003-BW-011**	**GW-17360-060903-BW-001**	**GW-17360-060903-BW-002**
Sample Date:		**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/9/2003**	**6/9/2003**
Sample Type:							
Depth:		**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(62-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	**5.9[ab]**	3.5	3.6	1.6	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP5-03**	**HP5-03**	**HP5-03**	**HP5-03**	**HP6-03**	**HP6-03**
Sample Identification:		**GW-17360-061003-BW-007**	**GW-17360-061003-BW-008**	**GW-17360-061003-BW-009**	**GW-17360-061003-BW-011**	**GW-17360-060903-BW-001**	**GW-17360-060903-BW-002**
Sample Date:		**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/9/2003**	**6/9/2003**
Sample Type:							
Depth:		**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(62-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP5-03**	**HP5-03**	**HP5-03**	**HP5-03**	**HP6-03**	**HP6-03**
Sample Identification:		**GW-17360-061003-BW-007**	**GW-17360-061003-BW-008**	**GW-17360-061003-BW-009**	**GW-17360-061003-BW-011**	**GW-17360-060903-BW-001**	**GW-17360-060903-BW-002**
Sample Date:		**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/10/2003**	**6/9/2003**	**6/9/2003**
Sample Type:							
Depth:		**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(62-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP6-03**	**HP6-03**	**HP6-03**	**HP7-03**	**HP7-03**	**HP7-03**
Sample Identification:		**GW-17360-060903-BW-003**	**GW-17360-060903-BW-004**	**GW-17360-060903-BW-005**	**GW-17360-061703-BW-030**	**GW-17360-061703-BW-031**	**GW-17360-061703-BW-033**
Sample Date:		**6/9/2003**	**6/9/2003**	**6/9/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**
Sample Type:				**Duplicate**			
Depth:		**(36-) ft BGS**	**(45-) ft BGS**	**(45-) ft BGS**	**(20-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.5	2.2
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.8
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP6-03**	**HP6-03**	**HP6-03**	**HP7-03**	**HP7-03**	**HP7-03**
Sample Identification:		**GW-17360-060903-BW-003**	**GW-17360-060903-BW-004**	**GW-17360-060903-BW-005**	**GW-17360-061703-BW-030**	**GW-17360-061703-BW-031**	**GW-17360-061703-BW-033**
Sample Date:		**6/9/2003**	**6/9/2003**	**6/9/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**
Sample Type:				**Duplicate**			
Depth:		**(36-) ft BGS**	**(45-) ft BGS**	**(45-) ft BGS**	**(20-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP6-03**	**HP6-03**	**HP6-03**	**HP7-03**	**HP7-03**	**HP7-03**
Sample Identification:		**GW-17360-060903-BW-003**	**GW-17360-060903-BW-004**	**GW-17360-060903-BW-005**	**GW-17360-061703-BW-030**	**GW-17360-061703-BW-031**	**GW-17360-061703-BW-033**
Sample Date:		**6/9/2003**	**6/9/2003**	**6/9/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**
Sample Type:				**Duplicate**			
Depth:		**(36-) ft BGS**	**(45-) ft BGS**	**(45-) ft BGS**	**(20-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		HP6-03	HP6-03	HP6-03	HP7-03	HP7-03	HP7-03
Sample Identification:		GW-17360-060903-BW-003	GW-17360-060903-BW-004	GW-17360-060903-BW-005	GW-17360-061703-BW-030	GW-17360-061703-BW-031	GW-17360-061703-BW-033
Sample Date:		6/9/2003	6/9/2003	6/9/2003	6/17/2003	6/17/2003	6/17/2003
Sample Type:				Duplicate			
Depth:		(36-) ft BGS	(45-) ft BGS	(45-) ft BGS	(20-) ft BGS	(30-) ft BGS	(40-) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP7-03**	**HP7-03**	**HP7-03**	**HP7-03**	**HP8-04**	**HP8-04**
Sample Identification:		**GW-17360-061703-BW-034**	**GW-17360-061703-BW-035**	**GW-17360-061703-BW-036**	**GW-17360-061703-BW-037**	**GW-17360-072204-DCR-151**	**GW-17360-072204-DCR-152**
Sample Date:		**6/17/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**	**7/22/2004**	**7/22/2004**
Sample Type:			**Duplicate**				
Depth:		**(50-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**	**(69.5-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.9	1.8	1.5	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.1 J	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	2.0	1.9	1.9	1.0	1.0 U	13
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.37 J	0.85 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**HP7-03**	**HP7-03**	**HP7-03**	**HP7-03**	**HP8-04**	**HP8-04**
Sample Identification:		**GW-17360-061703-BW-034**	**GW-17360-061703-BW-035**	**GW-17360-061703-BW-036**	**GW-17360-061703-BW-037**	**GW-17360-072204-DCR-151**	**GW-17360-072204-DCR-152**
Sample Date:		**6/17/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**	**7/22/2004**	**7/22/2004**
Sample Type:			**Duplicate**				
Depth:		**(50-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**	**(69.5-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP7-03**	**HP7-03**	**HP7-03**	**HP7-03**	**HP8-04**	**HP8-04**
Sample Identification:		**GW-17360-061703-BW-034**	**GW-17360-061703-BW-035**	**GW-17360-061703-BW-036**	**GW-17360-061703-BW-037**	**GW-17360-072204-DCR-151**	**GW-17360-072204-DCR-152**
Sample Date:		**6/17/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**	**7/22/2004**	**7/22/2004**
Sample Type:			**Duplicate**				
Depth:		**(50-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**	**(69.5-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

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Sample Location:		**HP7-03**	**HP7-03**	**HP7-03**	**HP7-03**	**HP8-04**	**HP8-04**
Sample Identification:		**GW-17360-061703-BW-034**	**GW-17360-061703-BW-035**	**GW-17360-061703-BW-036**	**GW-17360-061703-BW-037**	**GW-17360-072204-DCR-151**	**GW-17360-072204-DCR-152**
Sample Date:		**6/17/2003**	**6/17/2003**	**6/17/2003**	**6/17/2003**	**7/22/2004**	**7/22/2004**
Sample Type:			**Duplicate**				
Depth:		**(50-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**	**(69.5-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**
AOI:		**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25, AOI 4.3**	**AOI 25**	**AOI 25**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

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Sample Location:		**HP8-04**	**HP8-04**	**HP8-04**	**HP9-04**	**HP9-04**
Sample Identification:		**GW-17360-072204-DCR-153**	**GW-17360-072204-DCR-154**	**GW-17360-072204-DCR-155**	**GW-17360-072304-DCR-157**	**GW-17360-072304-DCR-158**
Sample Date:		**7/22/2004**	**7/22/2004**	**7/22/2004**	**7/23/2004**	**7/23/2004**
Sample Type:		**Duplicate**				
Depth:		**(32-) ft BGS**	**(43-) ft BGS**	**(53.5-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	0.56 J	1.0 U	1.0 U	0.37 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	1.6 J
Benzene	ug/L	0.35 J	0.22 J	0.22 J	0.34 J	0.31 J
Bromodichloromethane	ug/L	1.9	1.5	6.1	1.0 U	0.71 J
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	13	3.9	13	2.3	4.9
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	0.33 J	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.4	1.0 U	1.0 U	0.75 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	0.25 J	0.16 J	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	0.74 J	2.1	1.0 U	0.28 J
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	0.26 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	0.39 J	0.58 J	1.0 U	1.0 U	0.45 J
Toluene	ug/L	0.75 J	0.53 J	2.3	1.0 UJ	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	0.24 J	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

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Sample Location:		**HP8-04**	**HP8-04**	**HP8-04**	**HP9-04**	**HP9-04**
Sample Identification:		**GW-17360-072204-DCR-153**	**GW-17360-072204-DCR-154**	**GW-17360-072204-DCR-155**	**GW-17360-072304-DCR-157**	**GW-17360-072304-DCR-158**
Sample Date:		**7/22/2004**	**7/22/2004**	**7/22/2004**	**7/23/2004**	**7/23/2004**
Sample Type:		**Duplicate**				
Depth:		**(32-) ft BGS**	**(43-) ft BGS**	**(53.5-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	2.1	0.91 J	1.0 U	1.0 U	1.6
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

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Wyoming, Michigan

Sample Location:		**HP8-04**	**HP8-04**	**HP8-04**	**HP9-04**	**HP9-04**
Sample Identification:		**GW-17360-072204-DCR-153**	**GW-17360-072204-DCR-154**	**GW-17360-072204-DCR-155**	**GW-17360-072304-DCR-157**	**GW-17360-072304-DCR-158**
Sample Date:		**7/22/2004**	**7/22/2004**	**7/22/2004**	**7/23/2004**	**7/23/2004**
Sample Type:		**Duplicate**				
Depth:		**(32-) ft BGS**	**(43-) ft BGS**	**(53.5-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP8-04**	**HP8-04**	**HP8-04**	**HP9-04**	**HP9-04**
Sample Identification:		**GW-17360-072204-DCR-153**	**GW-17360-072204-DCR-154**	**GW-17360-072204-DCR-155**	**GW-17360-072304-DCR-157**	**GW-17360-072304-DCR-158**
Sample Date:		**7/22/2004**	**7/22/2004**	**7/22/2004**	**7/23/2004**	**7/23/2004**
Sample Type:		**Duplicate**				
Depth:		**(32-) ft BGS**	**(43-) ft BGS**	**(53.5-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		HP9-04	HP9-04	HP9-04	HP10-04	HP10-04
Sample Identification:		GW-17360-072304-DCR-159	GW-17360-072304-DCR-160	GW-17360-072304-DCR-161	GW-17360-072604-DCR-163	GW-17360-072604-DCR-164
Sample Date:		7/23/2004	7/23/2004	7/23/2004	7/26/2004	7/26/2004
Sample Type:						
Depth:		(46-) ft BGS	(56-) ft BGS	(66-) ft BGS	(15-) ft BGS	(25-) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.45 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	0.50 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	0.67 J	50 U	1.5 J
Acetone	ug/L	1.5 J	25 U	25 U	25 U	25 U
Benzene	ug/L	0.52 J	1.0 U	1.0 U	0.49 J	0.57 J
Bromodichloromethane	ug/L	0.22 J	3.4	5.7	1.0 U	1.3
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.5	16	16	1.0 U	4.2
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.2	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	0.40 J	1.0 U	1.0 U	0.39 J	0.43 J
Dibromochloromethane	ug/L	1.0 U	0.92 J	1.9	1.0 U	0.53 J
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	0.34 J	1.0 U	1.0 U	0.36 J	0.44 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	0.50 J	0.53 J
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Tetrachloroethene	ug/L	0.58 J	0.47 J	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.2 U	1.3	1.4	1.1	4.6 J
trans-1,2-Dichloroethene	ug/L	0.33 J	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP9-04**	**HP9-04**	**HP9-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072304-DCR-159**	**GW-17360-072304-DCR-160**	**GW-17360-072304-DCR-161**	**GW-17360-072604-DCR-163**	**GW-17360-072604-DCR-164**
Sample Date:		**7/23/2004**	**7/23/2004**	**7/23/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(15-) ft BGS**	**(25-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	2.7	0.46 J	1.0 U	1.0 U	0.53 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	0.85 J
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP9-04**	**HP9-04**	**HP9-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072304-DCR-159**	**GW-17360-072304-DCR-160**	**GW-17360-072304-DCR-161**	**GW-17360-072604-DCR-163**	**GW-17360-072604-DCR-164**
Sample Date:		**7/23/2004**	**7/23/2004**	**7/23/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(15-) ft BGS**	**(25-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP9-04**	**HP9-04**	**HP9-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072304-DCR-159**	**GW-17360-072304-DCR-160**	**GW-17360-072304-DCR-161**	**GW-17360-072604-DCR-163**	**GW-17360-072604-DCR-164**
Sample Date:		**7/23/2004**	**7/23/2004**	**7/23/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(15-) ft BGS**	**(25-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072604-DCR-165**	**GW-17360-072604-DCR-166**	**GW-17360-072604-DCR-167**	**GW-17360-072604-DCR-168**	**GW-17360-072604-DCR-169**
Sample Date:		**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(35-) ft BGS**	**(45-) ft BGS**	**(55-) ft BGS**	**(65-) ft BGS**	**(75-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	5.4	2.7	0.96 J	1.0	0.68 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	0.35 J	0.39 J
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	0.45 J	1.0 U	0.31 J	0.28 J	0.31 J
Bromodichloromethane	ug/L	0.20 J	0.23 J	1.0	0.76 J	0.69 J
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.2	1.4	2.7	3.2	4.3
Chloromethane (Methyl chloride)	ug/L	0.16 J	1.0 U	1.0 U	0.14 J	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	0.30 J	1.0 U	0.18 J	0.14 J	0.18 J
Dibromochloromethane	ug/L	1.0 U	1.0 U	0.39 J	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	0.28 J	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	0.57 J	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.3	1.0 U	3.8	3.8	4.4
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072604-DCR-165**	**GW-17360-072604-DCR-166**	**GW-17360-072604-DCR-167**	**GW-17360-072604-DCR-168**	**GW-17360-072604-DCR-169**
Sample Date:		**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(35-) ft BGS**	**(45-) ft BGS**	**(55-) ft BGS**	**(65-) ft BGS**	**(75-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	**11[ab]**	0.90 J	0.86 J	0.73 J	0.79 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072604-DCR-165**	**GW-17360-072604-DCR-166**	**GW-17360-072604-DCR-167**	**GW-17360-072604-DCR-168**	**GW-17360-072604-DCR-169**
Sample Date:		**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(35-) ft BGS**	**(45-) ft BGS**	**(55-) ft BGS**	**(65-) ft BGS**	**(75-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**	**HP10-04**
Sample Identification:		**GW-17360-072604-DCR-165**	**GW-17360-072604-DCR-166**	**GW-17360-072604-DCR-167**	**GW-17360-072604-DCR-168**	**GW-17360-072604-DCR-169**
Sample Date:		**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**	**7/26/2004**
Sample Type:						
Depth:		**(35-) ft BGS**	**(45-) ft BGS**	**(55-) ft BGS**	**(65-) ft BGS**	**(75-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP10-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**
Sample Identification:		**GW-17360-072704-DCR-171**	**GW-17360-072704-DCR-172**	**GW-17360-072704-DCR-173**	**GW-17360-072704-DCR-174**	**GW-17360-072704-DCR-175**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**
Sample Type:						
Depth:		**(80-) ft BGS**	**(12-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**	**(42-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	0.51 J	0.73 J	0.21 J	2.0 U	1.7 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	10 U	8.4 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	1.1 J	25 U	25 U	50 U	42 U
2-Hexanone	ug/L	50 U	50 U	50 U	100 U	84 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	0.43 J	50 U	50 U	100 U	84 U
Acetone	ug/L	25 U	25 U	25 U	50 U	42 U
Benzene	ug/L	0.54 J	0.48 J	1.0 U	0.45 J	1.7 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	10 U	8.4 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Chloroform (Trichloromethane)	ug/L	3.8	1.0 U	1.0 U	2.0 U	0.42 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	0.82 J	57	38
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Cyclohexane	ug/L	1.0 U	0.36 J	1.0 U	2.0 U	1.7 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Ethylbenzene	ug/L	0.28 J	0.25 J	1.0 U	2.0 U	1.7 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	10 U	8.4 U
Methyl acetate	ug/L	10 U	10 U	10 U	20 U	17 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	2.7 J	2.3 J	1.9 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	10 U	8.4 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	**17[ab]**
Toluene	ug/L	4.1	1.0	0.24 J	0.92 J	0.61 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	4.9	4.4
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
VOCs (continued)						

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Sample Location:		**HP10-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**
Sample Identification:		**GW-17360-072704-DCR-171**	**GW-17360-072704-DCR-172**	**GW-17360-072704-DCR-173**	**GW-17360-072704-DCR-174**	**GW-17360-072704-DCR-175**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**
Sample Type:						
Depth:		**(80-) ft BGS**	**(12-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**	**(42-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	0.72 J	0.93 J	4.5	**23[ab]**	**34[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	2.0 U	1.7 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	6.0 U	5.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

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Sample Location:		**HP10-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**
Sample Identification:		**GW-17360-072704-DCR-171**	**GW-17360-072704-DCR-172**	**GW-17360-072704-DCR-173**	**GW-17360-072704-DCR-174**	**GW-17360-072704-DCR-175**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**
Sample Type:						
Depth:		**(80-) ft BGS**	**(12-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**	**(42-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

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Sample Location:		**HP10-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**
Sample Identification:		**GW-17360-072704-DCR-171**	**GW-17360-072704-DCR-172**	**GW-17360-072704-DCR-173**	**GW-17360-072704-DCR-174**	**GW-17360-072704-DCR-175**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**	**7/27/2004**
Sample Type:						
Depth:		**(80-) ft BGS**	**(12-) ft BGS**	**(22-) ft BGS**	**(32-) ft BGS**	**(42-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

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Sample Location:		**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP12-04**
Sample Identification:		**GW-17360-072704-DCR-176**	**GW-17360-072704-DCR-177**	**GW-17360-072804-DCR-179**	**GW-17360-072804-DCR-180**	**GW-17360-072004-DCR-136**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/28/2004**	**7/28/2004**	**7/20/2004**
Sample Type:		**Duplicate**				
Depth:		**(42-) ft BGS**	**(52-) ft BGS**	**(62-) ft BGS**	**(69-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	8.4 U	8.4 UJ	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	42 U	42 U	25 U	25 U	0.72 J
2-Hexanone	ug/L	84 U	84 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	84 U	84 U	50 U	50 U	50 U
Acetone	ug/L	42 U	42 U	25 U	25 U	25 U
Benzene	ug/L	1.7 U	0.41 J	0.34 J	0.38 J	0.55 J
Bromodichloromethane	ug/L	1.7 U	0.36 J	0.47 J	1.0 U	1.0 U
Bromoform	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	8.4 U	8.4 U	5.0 U	5.0 U	0.85 J
Carbon tetrachloride	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.44 J	1.5 J	1.9	2.3	0.17 J
Chloromethane (Methyl chloride)	ug/L	1.7 U	1.7 U	0.16 J	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	39	37	11	25	1.0 U
cis-1,3-Dichloropropene	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.7 U	1.7 U	0.20 J	0.23 J	0.37 J
Dibromochloromethane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	0.27 J
Isopropyl benzene	ug/L	8.4 U	8.4 UJ	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	17 U	17 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	2.9 J	1.3 J	1.7 J	2.5 J	5.0 U
Methylene chloride	ug/L	8.4 U	8.4 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.7 U	1.7 UJ	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**15[ab]**	**15[ab]**	1.2	3.3	1.0 U
Toluene	ug/L	0.59 J	1.8 J	1.4	2.0	0.89 J
trans-1,2-Dichloroethene	ug/L	4.9	2.9	1.3	3.0	1.0 U
trans-1,3-Dichloropropene	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

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Wyoming, Michigan

Sample Location:		**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP12-04**
Sample Identification:		**GW-17360-072704-DCR-176**	**GW-17360-072704-DCR-177**	**GW-17360-072804-DCR-179**	**GW-17360-072804-DCR-180**	**GW-17360-072004-DCR-136**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/28/2004**	**7/28/2004**	**7/20/2004**
Sample Type:		**Duplicate**				
Depth:		**(42-) ft BGS**	**(52-) ft BGS**	**(62-) ft BGS**	**(69-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	**33[ab]**	**19[ab]**	**7.4[ab]**	**17[ab]**	0.32 J
Trichlorofluoromethane (CFC-11)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.7 U	1.7 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	5.0 U	5.0 UJ	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP12-04**
Sample Identification:		**GW-17360-072704-DCR-176**	**GW-17360-072704-DCR-177**	**GW-17360-072804-DCR-179**	**GW-17360-072804-DCR-180**	**GW-17360-072004-DCR-136**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/28/2004**	**7/28/2004**	**7/20/2004**
Sample Type:		**Duplicate**				
Depth:		**(42-) ft BGS**	**(52-) ft BGS**	**(62-) ft BGS**	**(69-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP11-04**	**HP11-04**	**HP11-04**	**HP11-04**	**HP12-04**
Sample Identification:		**GW-17360-072704-DCR-176**	**GW-17360-072704-DCR-177**	**GW-17360-072804-DCR-179**	**GW-17360-072804-DCR-180**	**GW-17360-072004-DCR-136**
Sample Date:		**7/27/2004**	**7/27/2004**	**7/28/2004**	**7/28/2004**	**7/20/2004**
Sample Type:		**Duplicate**				
Depth:		**(42-) ft BGS**	**(52-) ft BGS**	**(62-) ft BGS**	**(69-) ft BGS**	**(24-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25, AOI 4.1**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP12-04**	**HP12-04**	**HP12-04**	**HP12-04**	**HP13-04**
Sample Identification:		**GW-17360-072004-DCR-137**	**GW-17360-072004-DCR-138**	**GW-17360-072004-DCR-139**	**GW-17360-072004-DCR-140**	**GW-17360-071904-DCR-133**
Sample Date:		**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/19/2004**
Sample Type:			**Duplicate**			
Depth:		**(34-) ft BGS**	**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(22-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	0.75 J	0.54 J
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	0.51 J	0.54 J	0.32 J
Bromodichloromethane	ug/L	3.1	3.1	0.43 J	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	0.43 J	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	5.8	5.9	0.78 J	2.0	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	0.32 J	0.29 J	1.0 U
Dibromochloromethane	ug/L	1.6	1.5	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	0.23 J	0.22 J	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	0.29 J	0.18 J	0.22 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	0.25 J	1.0 U	1.0 U
Toluene	ug/L	2.6	2.6	1.8	2.5	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

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Sample Location:		**HP12-04**	**HP12-04**	**HP12-04**	**HP12-04**	**HP13-04**
Sample Identification:		**GW-17360-072004-DCR-137**	**GW-17360-072004-DCR-138**	**GW-17360-072004-DCR-139**	**GW-17360-072004-DCR-140**	**GW-17360-071904-DCR-133**
Sample Date:		**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/19/2004**
Sample Type:			**Duplicate**			
Depth:		**(34-) ft BGS**	**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(22-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

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Sample Location:		**HP12-04**	**HP12-04**	**HP12-04**	**HP12-04**	**HP13-04**
Sample Identification:		**GW-17360-072004-DCR-137**	**GW-17360-072004-DCR-138**	**GW-17360-072004-DCR-139**	**GW-17360-072004-DCR-140**	**GW-17360-071904-DCR-133**
Sample Date:		**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/19/2004**
Sample Type:			**Duplicate**			
Depth:		**(34-) ft BGS**	**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(22-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP12-04**	**HP12-04**	**HP12-04**	**HP12-04**	**HP13-04**
Sample Identification:		**GW-17360-072004-DCR-137**	**GW-17360-072004-DCR-138**	**GW-17360-072004-DCR-139**	**GW-17360-072004-DCR-140**	**GW-17360-071904-DCR-133**
Sample Date:		**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/20/2004**	**7/19/2004**
Sample Type:			**Duplicate**			
Depth:		**(34-) ft BGS**	**(34-) ft BGS**	**(44-) ft BGS**	**(54-) ft BGS**	**(22-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP13-04**	**HP14-04**	**HP14-04**	**HP14-04**	**HP14-04**
Sample Identification:		**GW-17360-071904-DCR-134**	**GW-17360-071204-DCR-071**	**GW-17360-071304-DCR-072**	**GW-17360-071304-DCR-073**	**GW-17360-071304-DCR-074**
Sample Date:		**7/19/2004**	**7/12/2004**	**7/13/2004**	**7/13/2004**	**7/13/2004**
Sample Type:					**Duplicate**	
Depth:		**(28.5-) ft BGS**	**(25-) ft BGS**	**(35-) ft BGS**	**(35-) ft BGS**	**(45-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	0.82 J	25 U	25 U	25 U	0.81 J
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	0.34 J	1.0 U	1.0 U	0.42 J
Bromodichloromethane	ug/L	1.6	0.36 J	0.44 J	0.45 J	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	4.5	2.4	2.8	2.8	3.4
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	0.71 J	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	0.21 J	0.24 J	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.1 U	0.70 J	0.24 J	0.24 J	0.90 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP13-04**	**HP14-04**	**HP14-04**	**HP14-04**	**HP14-04**
Sample Identification:		**GW-17360-071904-DCR-134**	**GW-17360-071204-DCR-071**	**GW-17360-071304-DCR-072**	**GW-17360-071304-DCR-073**	**GW-17360-071304-DCR-074**
Sample Date:		**7/19/2004**	**7/12/2004**	**7/13/2004**	**7/13/2004**	**7/13/2004**
Sample Type:					**Duplicate**	
Depth:		**(28.5-) ft BGS**	**(25-) ft BGS**	**(35-) ft BGS**	**(35-) ft BGS**	**(45-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	0.49 J	0.40 J	0.46 J	0.48 J	0.38 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP13-04**	**HP14-04**	**HP14-04**	**HP14-04**	**HP14-04**
Sample Identification:		**GW-17360-071904-DCR-134**	**GW-17360-071204-DCR-071**	**GW-17360-071304-DCR-072**	**GW-17360-071304-DCR-073**	**GW-17360-071304-DCR-074**
Sample Date:		**7/19/2004**	**7/12/2004**	**7/13/2004**	**7/13/2004**	**7/13/2004**
Sample Type:					**Duplicate**	
Depth:		**(28.5-) ft BGS**	**(25-) ft BGS**	**(35-) ft BGS**	**(35-) ft BGS**	**(45-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP13-04**	**HP14-04**	**HP14-04**	**HP14-04**	**HP14-04**
Sample Identification:		**GW-17360-071904-DCR-134**	**GW-17360-071204-DCR-071**	**GW-17360-071304-DCR-072**	**GW-17360-071304-DCR-073**	**GW-17360-071304-DCR-074**
Sample Date:		**7/19/2004**	**7/12/2004**	**7/13/2004**	**7/13/2004**	**7/13/2004**
Sample Type:					**Duplicate**	
Depth:		**(28.5-) ft BGS**	**(25-) ft BGS**	**(35-) ft BGS**	**(35-) ft BGS**	**(45-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Table 3.2

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP14-04**	**HP14-04**	**HP15-04**	**HP15-04**	**HP15-04**
Sample Identification:		**GW-17360-071304-DCR-075**	**GW-17360-071304-DCR-076**	**GW-17360-072004-DCR-141**	**GW-17360-072004-DCR-142**	**GW-17360-072104-BM-144**
Sample Date:		**7/13/2004**	**7/13/2004**	**7/20/2004**	**7/20/2004**	**7/21/2004**
Sample Type:						
Depth:		**(55-) ft BGS**	**(65-) ft BGS**	**(17-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	12	16	6.5
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	0.28 J	0.41 J	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.5 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	0.76 J	25 U	0.45 J	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	0.31 J	1.0 U	0.71 J	0.27 J	0.22 J
Bromodichloromethane	ug/L	1.0 U	7.2	1.0 U	1.0 U	0.36 J
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	0.45 J	5.0 U	0.28 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	3.9	16	1.0 U	1.0 U	0.85 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	0.38 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	0.38 J	0.17 J	0.23 J
Dibromochloromethane	ug/L	1.0 U	2.8	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	0.20 J	1.0 U	0.27 J	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	0.72 J	6.5	1.1	0.45 J	1.1
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP14-04**	**HP14-04**	**HP15-04**	**HP15-04**	**HP15-04**
Sample Identification:		**GW-17360-071304-DCR-075**	**GW-17360-071304-DCR-076**	**GW-17360-072004-DCR-141**	**GW-17360-072004-DCR-142**	**GW-17360-072104-BM-144**
Sample Date:		**7/13/2004**	**7/13/2004**	**7/20/2004**	**7/20/2004**	**7/21/2004**
Sample Type:						
Depth:		**(55-) ft BGS**	**(65-) ft BGS**	**(17-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Trichloroethene	ug/L	0.33 J	1.0 U	2.5	2.7	0.52 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP14-04**	**HP14-04**	**HP15-04**	**HP15-04**	**HP15-04**
Sample Identification:		**GW-17360-071304-DCR-075**	**GW-17360-071304-DCR-076**	**GW-17360-072004-DCR-141**	**GW-17360-072004-DCR-142**	**GW-17360-072104-BM-144**
Sample Date:		**7/13/2004**	**7/13/2004**	**7/20/2004**	**7/20/2004**	**7/21/2004**
Sample Type:						
Depth:		**(55-) ft BGS**	**(65-) ft BGS**	**(17-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP14-04**	**HP14-04**	**HP15-04**	**HP15-04**	**HP15-04**
Sample Identification:		**GW-17360-071304-DCR-075**	**GW-17360-071304-DCR-076**	**GW-17360-072004-DCR-141**	**GW-17360-072004-DCR-142**	**GW-17360-072104-BM-144**
Sample Date:		**7/13/2004**	**7/13/2004**	**7/20/2004**	**7/20/2004**	**7/21/2004**
Sample Type:						
Depth:		**(55-) ft BGS**	**(65-) ft BGS**	**(17-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP16-04**
Sample Identification:		**GW-17360-072104-BM-145**	**GW-17360-072104-BM-146**	**GW-17360-072104-BM-147**	**GW-17360-072104-BM-148**	**GW-17360-072104-BM-149**	**GW-17360-072804-DCR-181**
Sample Date:		**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/28/2004**
Sample Type:							
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(76-) ft BGS**	**(83.5-) ft BGS**	**(20-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	18	4.0	0.23 J	0.52 J	0.39 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	0.58 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	0.25 J	0.25 J	0.33 J	0.25 J	1.0 UJ	0.42 J
Bromodichloromethane	ug/L	1.0 U	3.5	1.5	1.4	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	8.7	3.1	4.1	2.7	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	0.19 J	0.17 J	1.0 U	0.25 J
Dibromochloromethane	ug/L	1.0 U	1.4	0.49 J	0.46 J	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.19 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	0.64 J	6.3	2.1	2.7	2.0 J	0.91 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP16-04**
Sample Identification:		**GW-17360-072104-BM-145**	**GW-17360-072104-BM-146**	**GW-17360-072104-BM-147**	**GW-17360-072104-BM-148**	**GW-17360-072104-BM-149**	**GW-17360-072804-DCR-181**
Sample Date:		**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/28/2004**
Sample Type:							
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(76-) ft BGS**	**(83.5-) ft BGS**	**(20-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25**
Trichloroethene	ug/L	0.76 J	1.0 U	0.30 J	1.0 U	0.58 J	**6.5[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP16-04**
Sample Identification:		**GW-17360-072104-BM-145**	**GW-17360-072104-BM-146**	**GW-17360-072104-BM-147**	**GW-17360-072104-BM-148**	**GW-17360-072104-BM-149**	**GW-17360-072804-DCR-181**
Sample Date:		**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/28/2004**
Sample Type:							
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(76-) ft BGS**	**(83.5-) ft BGS**	**(20-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP15-04**	**HP16-04**
Sample Identification:		**GW-17360-072104-BM-145**	**GW-17360-072104-BM-146**	**GW-17360-072104-BM-147**	**GW-17360-072104-BM-148**	**GW-17360-072104-BM-149**	**GW-17360-072804-DCR-181**
Sample Date:		**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/21/2004**	**7/28/2004**
Sample Type:							
Depth:		**(46-) ft BGS**	**(56-) ft BGS**	**(66-) ft BGS**	**(76-) ft BGS**	**(83.5-) ft BGS**	**(20-) ft BGS**
AOI:		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**
Sample Identification:		**GW-17360-072904-DCR-183**	**GW-17360-072904-DCR-184**	**GW-17360-072904-DCR-185**	**GW-17360-072904-DCR-186**	**GW-17360-072904-DCR-187**
Sample Date:		**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**
Sample Type:			**Duplicate**			
Depth:		**(30-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	0.22 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	0.87 J	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	0.26 J	0.26 J	1.0 U	0.24 J	0.24 J
Bromodichloromethane	ug/L	0.76 J	0.84 J	5.5	1.7	3.7
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.4	1.3	8.2	2.5	6.0
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	0.52 J	0.52 J	1.0 U	0.47 J	0.46 J
Dibromochloromethane	ug/L	0.76 J	0.73 J	2.9	1.1	1.9
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	0.61 J	0.63 J	1.0 U	0.56 J	0.54 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	0.68 J	0.72 J	1.0 U	0.62 J	0.64 J
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.2 U	1.2 U	2.9	1.7 U	3.5
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**
Sample Identification:		**GW-17360-072904-DCR-183**	**GW-17360-072904-DCR-184**	**GW-17360-072904-DCR-185**	**GW-17360-072904-DCR-186**	**GW-17360-072904-DCR-187**
Sample Date:		**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**
Sample Type:			**Duplicate**			
Depth:		**(30-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.8 J	1.8 J	3.0 U	1.6 J	1.6 J
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--
SVOCs (continued)						

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Wyoming, Michigan

Sample Location:		**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**
Sample Identification:		**GW-17360-072904-DCR-183**	**GW-17360-072904-DCR-184**	**GW-17360-072904-DCR-185**	**GW-17360-072904-DCR-186**	**GW-17360-072904-DCR-187**
Sample Date:		**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**
Sample Type:			**Duplicate**			
Depth:		**(30-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**	**HP16-04**
Sample Identification:		**GW-17360-072904-DCR-183**	**GW-17360-072904-DCR-184**	**GW-17360-072904-DCR-185**	**GW-17360-072904-DCR-186**	**GW-17360-072904-DCR-187**
Sample Date:		**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**	**7/29/2004**
Sample Type:			**Duplicate**			
Depth:		**(30-) ft BGS**	**(30-) ft BGS**	**(40-) ft BGS**	**(50-) ft BGS**	**(60-) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Metals						
Antimony	ug/L	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--
Barium	ug/L	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--
Iron	ug/L	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--
Lead	ug/L	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--
Silver	ug/L	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--

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Sample Location:		HP16-04	HP16-04	HP16-04	HP17-06	HP17-06	HP17-06
Sample Identification:		GW-17360-072904-DCR-188	GW-17360-072904-DCR-189	GW-17360-072904-DCR-190	GW-17360-080706-DR-001	GW-17360-080706-DR-002	GW-17360-080706-DR-003
Sample Date:		7/29/2004	7/29/2004	7/29/2004	8/7/2006	8/7/2006	8/7/2006
Sample Type:							
Depth:		(70-) ft BGS	(80-) ft BGS	(84.5-) ft BGS	(10-11) ft BGS	(20-21) ft BGS	(30-31) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	0.53 J	0.56 J	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	0.92 J	0.90 J	50 U	50 U	50 U
Acetone	ug/L	25 U	1.0 J	1.0 J	25 U	25 U	25 U
Benzene	ug/L	0.41 J	0.35 J	0.32 J	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	2.1	3.0	3.1	1.0 U	1.0 U	1.3
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	4.0	6.4	6.0	1.0 U	1.0 U	3.3
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.9	3.7	1.6
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	0.65 J	0.52 J	0.47 J	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.2	1.7	1.7	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	0.60 J	0.59 J	0.57 J	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	0.76 J	0.71 J	0.71 J	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	2.7	4.5	4.8	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
VOCs (continued)							

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Sample Location:		HP16-04	HP16-04	HP16-04	HP17-06	HP17-06	HP17-06
Sample Identification:		GW-17360-072904-DCR-188	GW-17360-072904-DCR-189	GW-17360-072904-DCR-190	GW-17360-080706-DR-001	GW-17360-080706-DR-002	GW-17360-080706-DR-003
Sample Date:		7/29/2004	7/29/2004	7/29/2004	8/7/2006	8/7/2006	8/7/2006
Sample Type:							
Depth:		(70-) ft BGS	(80-) ft BGS	(84.5-) ft BGS	(10-11) ft BGS	(20-21) ft BGS	(30-31) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.2	1.6	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	1.7 J	1.7 J	1.7 J	2.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

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Sample Location:		**HP16-04**	**HP16-04**	**HP16-04**	**HP17-06**	**HP17-06**	**HP17-06**
Sample Identification:		**GW-17360-072904-DCR-188**	**GW-17360-072904-DCR-189**	**GW-17360-072904-DCR-190**	**GW-17360-080706-DR-001**	**GW-17360-080706-DR-002**	**GW-17360-080706-DR-003**
Sample Date:		**7/29/2004**	**7/29/2004**	**7/29/2004**	**8/7/2006**	**8/7/2006**	**8/7/2006**
Sample Type:							
Depth:		**(70-) ft BGS**	**(80-) ft BGS**	**(84.5-) ft BGS**	**(10-11) ft BGS**	**(20-21) ft BGS**	**(30-31) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

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Sample Location:		HP16-04	HP16-04	HP16-04	HP17-06	HP17-06	HP17-06
Sample Identification:		GW-17360-072904-DCR-188	GW-17360-072904-DCR-189	GW-17360-072904-DCR-190	GW-17360-080706-DR-001	GW-17360-080706-DR-002	GW-17360-080706-DR-003
Sample Date:		7/29/2004	7/29/2004	7/29/2004	8/7/2006	8/7/2006	8/7/2006
Sample Type:							
Depth:		(70-) ft BGS	(80-) ft BGS	(84.5-) ft BGS	(10-11) ft BGS	(20-21) ft BGS	(30-31) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

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Sample Location:		HP17-06	HP17-06	HP17-06	HP17-06	MW57-13	MW58-13
Sample Identification:		GW-17360-080706-DR-004	GW-17360-080706-DR-005	GW-17360-080706-DR-006	GW-17360-080706-DR-007	GW-17360-042513-DR-084	GW-17360-042513-DR-085
Sample Date:		8/7/2006	8/7/2006	8/7/2006	8/7/2006	4/25/2013	4/25/2013
Sample Type:			Duplicate				
Depth:		(40-41) ft BGS	(40-41) ft BGS	(50-51) ft BGS	(55-56) ft BGS	(10-20) ft BGS	(13.5-18.5) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 31	AOI 4.1
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	--	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	--	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 UJ	--	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	--	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	--	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromodichloromethane	ug/L	2.3	2.3	4.5	3.0	--	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	5.0 U
Chloroform (Trichloromethane)	ug/L	5.5	5.6	11	13	--	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	5.0 U
cis-1,2-Dichloroethene	ug/L	7.6	7.7	22	23	--	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	--	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0	1.8	1.0 U	--	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	--	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	--	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
Tetrachloroethene	ug/L	1.3	1.4	**18[ab]**	**12 J[ab]**	--	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0	1.0 U	--	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	--	1.0 U
VOCs (continued)							

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Sample Location:		HP17-06	HP17-06	HP17-06	HP17-06	MW57-13	MW58-13
Sample Identification:		GW-17360-080706-DR-004	GW-17360-080706-DR-005	GW-17360-080706-DR-006	GW-17360-080706-DR-007	GW-17360-042513-DR-084	GW-17360-042513-DR-085
Sample Date:		8/7/2006	8/7/2006	8/7/2006	8/7/2006	4/25/2013	4/25/2013
Sample Type:			Duplicate				
Depth:		(40-41) ft BGS	(40-41) ft BGS	(50-51) ft BGS	(55-56) ft BGS	(10-20) ft BGS	(13.5-18.5) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 31	AOI 4.1
Trichloroethene	ug/L	5.0	5.0	**7.6[ab]**	**5.9[ab]**	--	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 UJ	--	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	5.0 U	5.0 U
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	5.0 U	5.0 U
Acenaphthylene	ug/L	--	--	--	--	5.0 U	5.0 U
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	5.0 U	5.0 U
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	--	--	--	--	1.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	1.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	1.0 U	1.0 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	1.0 U	1.0 U
SVOCs (continued)							

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Sample Location:		**HP17-06**	**HP17-06**	**HP17-06**	**HP17-06**	**MW57-13**	**MW58-13**
Sample Identification:		**GW-17360-080706-DR-004**	**GW-17360-080706-DR-005**	**GW-17360-080706-DR-006**	**GW-17360-080706-DR-007**	**GW-17360-042513-DR-084**	**GW-17360-042513-DR-085**
Sample Date:		**8/7/2006**	**8/7/2006**	**8/7/2006**	**8/7/2006**	**4/25/2013**	**4/25/2013**
Sample Type:			**Duplicate**				
Depth:		**(40-41) ft BGS**	**(40-41) ft BGS**	**(50-51) ft BGS**	**(55-56) ft BGS**	**(10-20) ft BGS**	**(13.5-18.5) ft BGS**
AOI:		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 31**	**AOI 4.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	1.0 U	1.0 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	2.0 U	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	1.0 U	1.0 U
Fluorene	ug/L	--	--	--	--	5.0 U	5.0 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	2.0 U	2.0 U
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	5.0 U	5.0 U
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	2.0 U	2.0 U
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	5.0 U	5.0 U
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

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Sample Location:		HP17-06	HP17-06	HP17-06	HP17-06	MW57-13	MW58-13
Sample Identification:		GW-17360-080706-DR-004	GW-17360-080706-DR-005	GW-17360-080706-DR-006	GW-17360-080706-DR-007	GW-17360-042513-DR-084	GW-17360-042513-DR-085
Sample Date:		8/7/2006	8/7/2006	8/7/2006	8/7/2006	4/25/2013	4/25/2013
Sample Type:			Duplicate				
Depth:		(40-41) ft BGS	(40-41) ft BGS	(50-51) ft BGS	(55-56) ft BGS	(10-20) ft BGS	(13.5-18.5) ft BGS
AOI:		AOI 25	AOI 25	AOI 25	AOI 25	AOI 31	AOI 4.1
Metals							
Antimony	ug/L	--	--	--	--	--	5 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	25
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	2 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	0.44 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	0.39 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	0.65 J
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	50 J
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	0.36 J
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	29
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	0.56 J
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	2.1 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	5 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	0.64 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	0.66 J
Zinc (dissolved)	ug/L	--	--	--	--	--	--

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Sample Location:		MW58-13	SB56-11	SB57-11	SB60-11	SB61-11	SB61-11
Sample Identification:		GW-17360-042513-DR-086	GW-17360-030811-DR-195	GW-17360-030911-DR-197	GW-17360-030811-DR-193	GW-17360-030811-DR-191	GW-17360-030811-DR-192
Sample Date:		4/25/2013	3/8/2011	3/9/2011	3/8/2011	3/8/2011	3/8/2011
Sample Type:		Duplicate					Duplicate
Depth:		(13.5-18.5) ft BGS	(15.5-15.5) ft BGS	(20.5-20.5) ft BGS	(23.2-23.2) ft BGS	(23-23) ft BGS	(23-23) ft BGS
AOI:		AOI 4.1	AOI 8.2	AOI 8.3	AOI 8.7	AOI 8.5	AOI 8.5
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.3	0.74 J	1.0 U	0.37 J	0.34 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.1	0.41 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	**29**[ab]	0.67 J	1.4	1.4
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Wyoming, Michigan

Sample Location:		MW58-13	SB56-11	SB57-11	SB60-11	SB61-11	SB61-11
Sample Identification:		GW-17360-042513-DR-086	GW-17360-030811-DR-195	GW-17360-030911-DR-197	GW-17360-030811-DR-193	GW-17360-030811-DR-191	GW-17360-030811-DR-192
Sample Date:		4/25/2013	3/8/2011	3/9/2011	3/8/2011	3/8/2011	3/8/2011
Sample Type:		Duplicate					Duplicate
Depth:		(13.5-18.5) ft BGS	(15.5-15.5) ft BGS	(20.5-20.5) ft BGS	(23.2-23.2) ft BGS	(23-23) ft BGS	(23-23) ft BGS
AOI:		AOI 4.1	AOI 8.2	AOI 8.3	AOI 8.7	AOI 8.5	AOI 8.5
Trichloroethene	ug/L	1.0 U	1.0 U	2.3	2.0	1.0	1.0
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		**MW58-13**	**SB56-11**	**SB57-11**	**SB60-11**	**SB61-11**	**SB61-11**
Sample Identification:		**GW-17360-042513-DR-086**	**GW-17360-030811-DR-195**	**GW-17360-030911-DR-197**	**GW-17360-030811-DR-193**	**GW-17360-030811-DR-191**	**GW-17360-030811-DR-192**
Sample Date:		**4/25/2013**	**3/8/2011**	**3/9/2011**	**3/8/2011**	**3/8/2011**	**3/8/2011**
Sample Type:		**Duplicate**					**Duplicate**
Depth:		**(13.5-18.5) ft BGS**	**(15.5-15.5) ft BGS**	**(20.5-20.5) ft BGS**	**(23.2-23.2) ft BGS**	**(23-23) ft BGS**	**(23-23) ft BGS**
AOI:		**AOI 4.1**	**AOI 8.2**	**AOI 8.3**	**AOI 8.7**	**AOI 8.5**	**AOI 8.5**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

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Sample Location:		**MW58-13**	**SB56-11**	**SB57-11**	**SB60-11**	**SB61-11**	**SB61-11**
Sample Identification:		**GW-17360-042513-DR-086**	**GW-17360-030811-DR-195**	**GW-17360-030911-DR-197**	**GW-17360-030811-DR-193**	**GW-17360-030811-DR-191**	**GW-17360-030811-DR-192**
Sample Date:		**4/25/2013**	**3/8/2011**	**3/9/2011**	**3/8/2011**	**3/8/2011**	**3/8/2011**
Sample Type:		**Duplicate**					**Duplicate**
Depth:		**(13.5-18.5) ft BGS**	**(15.5-15.5) ft BGS**	**(20.5-20.5) ft BGS**	**(23.2-23.2) ft BGS**	**(23-23) ft BGS**	**(23-23) ft BGS**
AOI:		**AOI 4.1**	**AOI 8.2**	**AOI 8.3**	**AOI 8.7**	**AOI 8.5**	**AOI 8.5**
Metals							
Antimony	ug/L	5 U	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	2.0 U	2.0 U	2.0 U	2.0 U
Arsenic	ug/L	5 U	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	5.0 U	0.47 J	5.0 U	5.0 U
Barium	ug/L	25	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	30.7 J	44.7 J	46.6 J	46.4 J
Beryllium	ug/L	2 U	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	ug/L	2 U	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Chromium	ug/L	0.39 J	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	2.1 J	5.0 U	1.2 J	1.1 J
Cobalt	ug/L	0.39 J	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	0.23 J	3.4 J	0.12 J	0.099 J
Copper	ug/L	0.66 J	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	2.0 U	2.0 U	2.0 U	2.0 U
Iron	ug/L	49 J	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	0.11 J	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	3.0 U	3.0 U	1.2 J	1.4 J
Manganese	ug/L	29	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	30.5	**544**[ab]	25.8	24.7
Mercury	ug/L	0.2 U	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	0.20 U	0.20 U	0.20 U	0.20 U
Molybdenum	ug/L	0.57 J	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	2 J	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	20.0 U	4.5 J	0.57 J	0.73 J
Selenium	ug/L	5 U	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Silver	ug/L	5 U	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	0.20 U	0.20 U	0.20 U	0.20 U
Thallium	ug/L	5 U	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	ug/L	0.65 J	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	ug/L	0.66 J	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	20.0 U	20.0 U	20.0 U	20.0 U

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Sample Location:		**SB64-11**	**SB67-11**	**SB71-11**	**SB88-11**	**SB102-11**	**SB104-11**
Sample Identification:		**GW-17360-030811-DR-196**	**GW-17360-030911-DR-199**	**GW-17360-030911-DR-198**	**GW-17360-030811-DR-194**	**GW-17360-030811-DR-189**	**GW-17360-030811-DR-188**
Sample Date:		**3/8/2011**	**3/9/2011**	**3/9/2011**	**3/8/2011**	**3/8/2011**	**3/8/2011**
Sample Type:							
Depth:		**(15.5-15.5) ft BGS**	**(24-24) ft BGS**	**(20-20) ft BGS**	**(16-16) ft BGS**	**(23.5-23.5) ft BGS**	**(25-25) ft BGS**
AOI:		**AOI 9**	**AOI 10.2**	**AOI 12**	**AOI 17.2**	**AOI 26.1**	**AOI 26.3**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	1.1 J	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	4.6 J	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	5.5	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	0.77 J	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.82 J	0.18 J	18	0.17 J	1.1	0.43 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.72 J	1.0 U	1.0 U	1.0 U	1.0 U	0.54 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.7	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**30[ab]**	1.0 U	1.0 U	**19[ab]**	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.47 J
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**SB64-11**	**SB67-11**	**SB71-11**	**SB88-11**	**SB102-11**	**SB104-11**
Sample Identification:		**GW-17360-030811-DR-196**	**GW-17360-030911-DR-199**	**GW-17360-030911-DR-198**	**GW-17360-030811-DR-194**	**GW-17360-030811-DR-189**	**GW-17360-030811-DR-188**
Sample Date:		**3/8/2011**	**3/9/2011**	**3/9/2011**	**3/8/2011**	**3/8/2011**	**3/8/2011**
Sample Type:							
Depth:		**(15.5-15.5) ft BGS**	**(24-24) ft BGS**	**(20-20) ft BGS**	**(16-16) ft BGS**	**(23.5-23.5) ft BGS**	**(25-25) ft BGS**
AOI:		**AOI 9**	**AOI 10.2**	**AOI 12**	**AOI 17.2**	**AOI 26.1**	**AOI 26.3**
Trichloroethene	ug/L	2.4	1.0 U	1.0 U	0.74 J	1.2	**7.1[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	5.0 U	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	5.0 U	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	4.0 U	--	--	--	--
2,4-Dichlorophenol	ug/L	--	10 U	--	--	--	--
2,4-Dimethylphenol	ug/L	--	5.0 U	--	--	--	--
2,4-Dinitrophenol	ug/L	--	20 UJ	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	5.0 U	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	5.0 U	--	--	--	--
2-Chloronaphthalene	ug/L	--	5.0 U	--	--	--	--
2-Chlorophenol	ug/L	--	5.0 U	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	--	5.0 U	--	--	--	--
2-Nitroaniline	ug/L	--	20 U	--	--	--	--
2-Nitrophenol	ug/L	--	5.0 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	1.0 U	--	--	--	--
3-Nitroaniline	ug/L	--	20 U	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	20 U	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	5.0 U	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	5.0 U	--	--	--	--
4-Chloroaniline	ug/L	--	10 U	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	5.0 U	--	--	--	--
4-Methylphenol	ug/L	--	5.0 U	--	--	--	--
4-Nitroaniline	ug/L	--	20 U	--	--	--	--
4-Nitrophenol	ug/L	--	20 U	--	--	--	--
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	--	5.0 U	--	--	--	--
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	--	3.0 U	--	--	--	--
Benzaldehyde	ug/L	--	5.0 UJ	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
SVOCs (continued)							

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Sample Location:		**SB64-11**	**SB67-11**	**SB71-11**	**SB88-11**	**SB102-11**	**SB104-11**
Sample Identification:		**GW-17360-030811-DR-196**	**GW-17360-030911-DR-199**	**GW-17360-030911-DR-198**	**GW-17360-030811-DR-194**	**GW-17360-030811-DR-189**	**GW-17360-030811-DR-188**
Sample Date:		**3/8/2011**	**3/9/2011**	**3/9/2011**	**3/8/2011**	**3/8/2011**	**3/8/2011**
Sample Type:							
Depth:		**(15.5-15.5) ft BGS**	**(24-24) ft BGS**	**(20-20) ft BGS**	**(16-16) ft BGS**	**(23.5-23.5) ft BGS**	**(25-25) ft BGS**
AOI:		**AOI 9**	**AOI 10.2**	**AOI 12**	**AOI 17.2**	**AOI 26.1**	**AOI 26.3**
Biphenyl (1,1-Biphenyl)	ug/L	--	5.0 U	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	5.0 U	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	1.0 U	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	5.0 U	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	5.0 U	--	--	--	--
Caprolactam	ug/L	--	10 U	--	--	--	--
Carbazole	ug/L	--	10 U	--	--	--	--
Chrysene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	--	4.0 U	--	--	--	--
Diethyl phthalate	ug/L	--	5.0 U	--	--	--	--
Dimethyl phthalate	ug/L	--	5.0 U	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	5.0 U	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	5.0 U	--	--	--	--
Fluoranthene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	--	0.20 U	--	--	--	--
Hexachlorobutadiene	ug/L	--	1.0 U	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	5.0 U	--	--	--	--
Hexachloroethane	ug/L	--	5.0 U	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	--	5.0 U	--	--	--	--
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	--	3.0 U	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	5.0 U	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	5.0 UJ	--	--	--	--
Pentachlorophenol	ug/L	--	5.0 U	--	--	--	--
Phenanthrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Phenol	ug/L	--	5.0 U	--	--	--	--
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		SB64-11	SB67-11	SB71-11	SB88-11	SB102-11	SB104-11
Sample Identification:		GW-17360-030811-DR-196	GW-17360-030911-DR-199	GW-17360-030911-DR-198	GW-17360-030811-DR-194	GW-17360-030811-DR-189	GW-17360-030811-DR-188
Sample Date:		3/8/2011	3/9/2011	3/9/2011	3/8/2011	3/8/2011	3/8/2011
Sample Type:							
Depth:		(15.5-15.5) ft BGS	(24-24) ft BGS	(20-20) ft BGS	(16-16) ft BGS	(23.5-23.5) ft BGS	(25-25) ft BGS
AOI:		AOI 9	AOI 10.2	AOI 12	AOI 17.2	AOI 26.1	AOI 26.3
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	2.0 U	--	2.0 U	2.0 U	2.0 U	2.0 U
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	5.0 U	--	5.0 U	0.85 J	5.0 U	5.0 U
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	32.0 J	--	19.7 J	13.4 J	34.0 J	98.3 J
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	1.0 J	--	2.9 J	1.1 J	1.0 J	1.2 J
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	0.38 J	--	0.092 J	0.18 J	7.0 U	0.26 J
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	2.0 U	--	2.0 U	2.0 U	2.0 U	2.0 U
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	3.0 U	--	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	**66.8**[ab]	--	26.8	24.1	5.9 J	22.5
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	0.20 U	--	0.20 U	0.20 U	0.20 U	0.20 U
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	20.0 U	--	20.0 U	0.26 J	0.82 J	0.52 J
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	1.3 J	--	5.0 U	2.3 J	5.0 U	5.0 U
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	0.20 U	--	0.20 U	0.20 U	0.20 U	0.20 U
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	4.0 U	--	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	20.0 U	--	20.0 U	20.0 U	20.0 U	20.0 U

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Sample Location:		SB105-11	SB130-11	TW131-11	TW132-11	TW134-11	TW137-11
Sample Identification:		GW-17360-030811-DR-190	GW-17360-093011-EM-052	GW-17360-100411-EM-057	GW-17360-100411-EM-056	GW-17360-100311-EM-054	GW-17360-100311-EM-055
Sample Date:		3/8/2011	9/30/2011	10/4/2011	10/4/2011	10/3/2011	10/3/2011
Sample Type:							
Depth:		(22.2-22.2) ft BGS					
AOI:		AOI 26.4	AOI 4.2	AOI 4.2	AOI 4.2	AOI 8.6	AOI 17.1
Volatile Organic Compounds (VOCs)							
			1.0 U	1.0 U	0.38 J	1.0 U	1.0 U
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
1,2-Dichloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	ug/L	50 U	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	ug/L	25 U	--	--	--	--	--
Benzene	ug/L	1.0 U	--	--	--	--	--
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	ug/L	5.0 U	--	--	--	--	--
Carbon tetrachloride	ug/L	1.0 U	--	--	--	--	--
Chlorobenzene	ug/L	1.0 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	1.0 U	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	1.2	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	ug/L	0.31 J	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--	--	--	--	--
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl cyclohexane	ug/L	1.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	ug/L	1.0 U	--	--	--	--	--
Tetrachloroethene	ug/L	2.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.85 J	0.34 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J	1.0 U
VOCs (continued)							

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Sample Location:		**SB105-11**	**SB130-11**	**TW131-11**	**TW132-11**	**TW134-11**	**TW137-11**
Sample Identification:		**GW-17360-030811-DR-190**	**GW-17360-093011-EM-052**	**GW-17360-100411-EM-057**	**GW-17360-100411-EM-056**	**GW-17360-100311-EM-054**	**GW-17360-100311-EM-055**
Sample Date:		**3/8/2011**	**9/30/2011**	**10/4/2011**	**10/4/2011**	**10/3/2011**	**10/3/2011**
Sample Type:							
Depth:		**(22.2-22.2) ft BGS**					
AOI:		**AOI 26.4**	**AOI 4.2**	**AOI 4.2**	**AOI 4.2**	**AOI 8.6**	**AOI 17.1**
			1.0 U	1.0 U	0.38 J	1.0 U	1.0 U
Trichloroethene	ug/L	0.69 J	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	--	--	--	--	--
			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-Volatile Organic Compounds (SVOCs)			--	--	--	--	--
			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,6-Dinitrotoluene	ug/L	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	1.0 U	1.7	0.48 J	1.3	1.0 U
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-methylphenol	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloroaniline	ug/L	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorophenyl phenyl ether	ug/L	--	1.0 U	1.0 U	1.0 U	0.83 J	1.0 U
4-Methylphenol	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Nitroaniline	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Nitrophenol	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene	ug/L	5.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acenaphthylene	ug/L	5.0 U					
Acetophenone	ug/L	--					
Anthracene	ug/L	5.0 U					
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	--	--	--	--
Benzo(a)pyrene	ug/L	1.0 U	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	--	--	--	--
SVOCs (continued)							

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Sample Location:		**SB105-11**	**SB130-11**	**TW131-11**	**TW132-11**	**TW134-11**	**TW137-11**
Sample Identification:		**GW-17360-030811-DR-190**	**GW-17360-093011-EM-052**	**GW-17360-100411-EM-057**	**GW-17360-100411-EM-056**	**GW-17360-100311-EM-054**	**GW-17360-100311-EM-055**
Sample Date:		**3/8/2011**	**9/30/2011**	**10/4/2011**	**10/4/2011**	**10/3/2011**	**10/3/2011**
Sample Type:							
Depth:		**(22.2-22.2) ft BGS**					
AOI:		**AOI 26.4**	**AOI 4.2**	**AOI 4.2**	**AOI 4.2**	**AOI 8.6**	**AOI 17.1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	2.0 U	5.0 U	4.9 U	5.0 U	4.9 U	4.9 U
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	--	--	--	--
Fluorene	ug/L	5.0 U	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	--	--	--	--
Nitrobenzene	ug/L	--	5.0 U	4.9 U	5.0 U	4.9 U	1.5 J
N-Nitrosodi-n-propylamine	ug/L	--	5.0 U	4.9 U	5.0 U	4.9 U	4.9 U
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	5.0 U	4.9 U	5.0 U	4.9 U	0.23 J
Phenanthrene	ug/L	2.0 U	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	--	--	--	--
			1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
PCBs			1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
			1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
Aroclor-1016 (PCB-1016)	ug/L	--	1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
Aroclor-1221 (PCB-1221)	ug/L	--	1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

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Sample Location:		**SB105-11**	**SB130-11**	**TW131-11**	**TW132-11**	**TW134-11**	**TW137-11**
Sample Identification:		**GW-17360-030811-DR-190**	**GW-17360-093011-EM-052**	**GW-17360-100411-EM-057**	**GW-17360-100411-EM-056**	**GW-17360-100311-EM-054**	**GW-17360-100311-EM-055**
Sample Date:		**3/8/2011**	**9/30/2011**	**10/4/2011**	**10/4/2011**	**10/3/2011**	**10/3/2011**
Sample Type:							
Depth:		**(22.2-22.2) ft BGS**					
AOI:		**AOI 26.4**	**AOI 4.2**	**AOI 4.2**	**AOI 4.2**	**AOI 8.6**	**AOI 17.1**
Metals			--	--	--	--	--
			--	--	--	--	--
Antimony	ug/L	--	1.0 U	0.98 U	0.99 U	0.98 U	0.97 U
Antimony (dissolved)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	5.0 U	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	44.8 J	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	1.0 U	1.0 U	0.98 U	0.99 U	0.98 U	0.34 J
Cadmium	ug/L	--	5.0 U	4.9 U	5.0 U	4.9 U	0.47 J
Cadmium (dissolved)	ug/L	1.0 U	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	1.2 J	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	0.096 J	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	2.0 U	5.0 U	4.9 U	5.0 U	4.9 U	4.9 U
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	3.0 U	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	22.8	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	0.20 U	5.0 U	4.9 U	5.0 U	4.9 U	0.20 J
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--					
Nickel	ug/L	--					
Nickel (dissolved)	ug/L	0.57 J					
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	5.0 U	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	0.20 U	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	1.0 U					
Vanadium	ug/L	--					
Vanadium (dissolved)	ug/L	4.0 U					
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	20.0 U	--	--	--	--	--

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Sample Location:		TW254-13	TW254-13	TW300-13	TW300-13	SB189-12	SB190-12
Sample Identification:		WG-17360-082113-EB-122	WG-17360-082113-EB-123	GW-017360-102313-MR-078	GW-017360-102313-MR-079	GW-17360-103112-DD-171	GW-17360-110112-DD-198
Sample Date:		8/21/2013	8/21/2013	10/23/2013	10/23/2013	10/31/2012	11/1/2012
Sample Type:			Duplicate		Duplicate		
Depth:						(17-) ft BGS	(17-) ft BGS
AOI:		AOI 14	AOI 14	AOI 40	AOI 40	AOI 4.1	AOI 8.4
Volatile Organic Compounds (VOCs)							
		1.0 U	1.0 U	1.0 U	1.0 U		
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	--	--	--	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
2-Hexanone	ug/L	--	--	--	--	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Acetone	ug/L	--	--	--	--	5.0 U	5.0 U
Benzene	ug/L	--	--	--	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	--	--	--	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	25 U	25 U	25 U	25 U	1.0 U	1.0 U
Carbon disulfide	ug/L	--	--	--	--	5.0 U	5.0 U
Carbon tetrachloride	ug/L	--	--	--	--	1.0 U	1.0 U
Chlorobenzene	ug/L	50 U	50 U	50 U	50 U	1.0 U	1.0 U
Chloroethane	ug/L	--	--	--	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	--	--	--	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	50 U	50 U	50 U	50 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	50 U	2.3 J	50 U	50 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	--	--	--	--	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	0.23 J	1.0 U	1.0 U	5.0 U	5.0 U
Dibromochloromethane	ug/L	--	--	--	--	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl cyclohexane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	ug/L	--	--	--	--	1.0 U	1.0 U
Tetrachloroethene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	**12[ab]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**TW254-13**	**TW254-13**	**TW300-13**	**TW300-13**	**SB189-12**	**SB190-12**
Sample Identification:		**WG-17360-082113-EB-122**	**WG-17360-082113-EB-123**	**GW-017360-102313-MR-078**	**GW-017360-102313-MR-079**	**GW-17360-103112-DD-171**	**GW-17360-110112-DD-198**
Sample Date:		**8/21/2013**	**8/21/2013**	**10/23/2013**	**10/23/2013**	**10/31/2012**	**11/1/2012**
Sample Type:			**Duplicate**		**Duplicate**		
Depth:						**(17-) ft BGS**	**(17-) ft BGS**
AOI:		**AOI 14**	**AOI 14**	**AOI 40**	**AOI 40**	**AOI 4.1**	**AOI 8.4**
		1.0 U	1.0 U	1.0 U	1.0 U		
Trichloroethene	ug/L	--	--	--	--	1.0 U	0.57 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	--	--	--	--	3.0 U	3.0 U
		5.0 U	5.0 U	0.92 J	0.96 J		
Semi-Volatile Organic Compounds (SVOCs)		--	--	--	--		
		1.0 U	1.0 U	1.0 U	1.0 U		
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	0.50 U	0.50 U
2,4,5-Trichlorophenol	ug/L	--	--	--	--	0.50 U	0.50 U
2,4,6-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.50 U	0.50 U
2,4-Dichlorophenol	ug/L	--	--	--	--	0.50 U	0.50 U
2,4-Dimethylphenol	ug/L	--	--	--	--	1.0 U	1.0 U
2,4-Dinitrophenol	ug/L	10 U	10 U	10 U	10 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.50 U	0.50 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.50 U	0.50 U
2-Chlorophenol	ug/L	--	--	--	--	0.50 U	0.50 U
2-Methylnaphthalene	ug/L	--	--	--	--	0.50 U	0.50 U
2-Methylphenol	ug/L	--	--	--	--	0.50 U	0.50 U
2-Nitroaniline	ug/L	--	--	--	--	0.50 U	0.50 U
2-Nitrophenol	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	1.0 U	1.0 U
3-Nitroaniline	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	1.0 U	0.27 J	1.0 U	1.0 U	0.50 U	0.50 U
4-Chloro-3-methylphenol	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U
4-Chloroaniline	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorophenyl phenyl ether	ug/L	1.0 U	1.0 U	3.5	3.4	0.50 U	0.50 U
4-Methylphenol	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U
4-Nitroaniline	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Nitrophenol	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Acenaphthene	ug/L	3.0 U	0.41 J	3.0 U	3.0 U	0.50 U	0.50 U
Acenaphthylene	ug/L					0.50 U	0.50 U
Acetophenone	ug/L					0.50 U	0.50 U
Anthracene	ug/L					0.50 U	0.50 U
Atrazine	ug/L	--	--	--	--	0.50 U	0.50 U
Benzaldehyde	ug/L	--	--	--	--	0.50 U	0.50 U
Benzo(a)anthracene	ug/L	--	--	--	--	0.50 U	0.50 U
Benzo(a)pyrene	ug/L	--	--	--	--	0.50 U	0.50 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	0.50 U	0.50 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
SVOCs (continued)							

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Sample Location:		**TW254-13**	**TW254-13**	**TW300-13**	**TW300-13**	**SB189-12**	**SB190-12**
Sample Identification:		**WG-17360-082113-EB-122**	**WG-17360-082113-EB-123**	**GW-017360-102313-MR-078**	**GW-017360-102313-MR-079**	**GW-17360-103112-DD-171**	**GW-17360-110112-DD-198**
Sample Date:		**8/21/2013**	**8/21/2013**	**10/23/2013**	**10/23/2013**	**10/31/2012**	**11/1/2012**
Sample Type:			**Duplicate**		**Duplicate**		
Depth:						**(17-) ft BGS**	**(17-) ft BGS**
AOI:		**AOI 14**	**AOI 14**	**AOI 40**	**AOI 40**	**AOI 4.1**	**AOI 8.4**
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
bis(2-Chloroethoxy)methane	ug/L	10 U	10 U	--	--	0.50 U	0.50 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	--	--	1.0 U	1.0 U
Caprolactam	ug/L	5.0 U	5.0 U	--	--	1.0 UJ	1.0 UJ
Carbazole	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Chrysene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Dibenz(a,h)anthracene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Dibenzofuran	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Diethyl phthalate	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	1.0 U	1.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Fluoranthene	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Fluorene	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Hexachlorocyclopentadiene	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Hexachloroethane	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Isophorone	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Naphthalene	ug/L	20 U	20 U	--	--	0.50 U	0.50 U
Nitrobenzene	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
N-Nitrosodiphenylamine	ug/L	1.0 U	1.0 U	--	--	0.50 U	0.50 U
Pentachlorophenol	ug/L	5.0 U	5.0 U	--	--	0.50 U	0.50 U
Phenanthrene	ug/L	1.0 U	1.0 U	--	--	0.50 U	0.50 U
Phenol	ug/L	1.0 U	1.0 U	--	--	0.50 U	0.50 U
Pyrene	ug/L	--	--	--	--	0.50 U	0.50 U
		5.0 U	5.0 U	--	--		
PCBs		5.0 U	5.0 U	--	--		
		5.0 U	5.0 U	--	--		
Aroclor-1016 (PCB-1016)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	5.0 U	4.1 J	--	--	0.20 U	0.20 U
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	0.20 U	0.20 U
Total PCBs	ug/L	5.0 U	5.0 U	--	--	0	0

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Sample Location:		**TW254-13**	**TW254-13**	**TW300-13**	**TW300-13**	**SB189-12**	**SB190-12**
Sample Identification:		**WG-17360-082113-EB-122**	**WG-17360-082113-EB-123**	**GW-017360-102313-MR-078**	**GW-017360-102313-MR-079**	**GW-17360-103112-DD-171**	**GW-17360-110112-DD-198**
Sample Date:		**8/21/2013**	**8/21/2013**	**10/23/2013**	**10/23/2013**	**10/31/2012**	**11/1/2012**
Sample Type:			**Duplicate**		**Duplicate**		
Depth:						**(17-) ft BGS**	**(17-) ft BGS**
AOI:		**AOI 14**	**AOI 14**	**AOI 40**	**AOI 40**	**AOI 4.1**	**AOI 8.4**
Metals		10 U	10 U	--	--		
		10 U	10 U	--	--		
Antimony	ug/L	5.0 U	5.0 U	--	--	--	--
Antimony (dissolved)	ug/L	5.0 U	5.0 U	--	--	1.0 U	0.32 J
Arsenic	ug/L	5.0 U	5.0 U	--	--	--	--
Arsenic (dissolved)	ug/L	2.4 J	1.9 J	--	--	0.34 J	0.49 J
Barium	ug/L	20 U	20 U	--	--	--	--
Barium (dissolved)	ug/L	5.0 U	5.0 U	--	--	9.0	53
Beryllium	ug/L	5.0 U	5.0 U	--	--	--	--
Beryllium (dissolved)	ug/L	5.0 U	5.0 U	--	--	1.0 U	1.0 U
Cadmium	ug/L	5.0 U	5.0 U	--	--	--	--
Cadmium (dissolved)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Chromium	ug/L	5.0 U	5.0 U	--	--	--	--
Chromium (dissolved)	ug/L	20 U	20 U	--	--	0.29 J	4.6
Cobalt	ug/L	5.0 U	5.0 U	--	--	--	--
Cobalt (dissolved)	ug/L	5.0 U	5.0 U	--	--	1.3	1.1
Copper	ug/L	5.0 U	5.0 U	--	--	--	--
Copper (dissolved)	ug/L	5.0 U	5.0 U	--	--	15	1.3
Iron	ug/L	5.0 U	5.0 U	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	77	10 J
Lead	ug/L	5.0 U	5.0 U	--	--	--	--
Lead (dissolved)	ug/L	5.0 U	5.0 U	--	--	0.81 J	1.0 U
Manganese	ug/L	20 U	20 U	--	--	--	--
Manganese (dissolved)	ug/L	5.0 U	5.0 U	--	--	**72[ab]**	**66[ab]**
Mercury	ug/L	5.0 U	5.0 U	--	--	--	--
Mercury (dissolved)	ug/L	5.0 U	5.0 U	--	--	0.20 U	0.20 U
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L					2.9	6.7
Nickel	ug/L					--	--
Nickel (dissolved)	ug/L					2.8	1.6
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	1.4	1.5
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	0.20 U	0.20 U
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L					1.0 U	1.0 U
Vanadium	ug/L					--	--
Vanadium (dissolved)	ug/L					1.0 U	1.0 U
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	9.6 J	6.3 J

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Sample Location:		SB192-12	SB194-12	SB195-12	SB195-12	SB197-12	SB199-12
Sample Identification:		GW-17360-103012-DD-114	GW-17360-103012-DD-119	GW-17360-102612-DD-110	GW-17360-102612-DD-111	GW-17360-102512-DD-105	GW-17360-103112-DD-175
Sample Date:		10/30/2012	10/30/2012	10/26/2012	10/26/2012	10/25/2012	10/31/2012
Sample Type:					Duplicate		
Depth:		(16-) ft BGS	(15-) ft BGS	(16-) ft BGS	(16-) ft BGS	(15.5-) ft BGS	(16-) ft BGS
AOI:		AOI 9	AOI 9	AOI 10.1	AOI 10.1	AOI 15.3	AOI 17.2
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.5 J	25 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U
Acetone	ug/L	5.0 U	5.0 U	9.1	8.9	8.8	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.4	1.2	1.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	9.3
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.1	0.95 J	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
Methyl cyclohexane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.56 J	0.77 J	1.0 U	1.0 U	**9.0[ab]**	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		SB192-12	SB194-12	SB195-12	SB195-12	SB197-12	SB199-12
Sample Identification:		GW-17360-103012-DD-114	GW-17360-103012-DD-119	GW-17360-102612-DD-110	GW-17360-102612-DD-111	GW-17360-102512-DD-105	GW-17360-103112-DD-175
Sample Date:		10/30/2012	10/30/2012	10/26/2012	10/26/2012	10/25/2012	10/31/2012
Sample Type:					Duplicate		
Depth:		(16-) ft BGS	(15-) ft BGS	(16-) ft BGS	(16-) ft BGS	(15.5-) ft BGS	(16-) ft BGS
AOI:		AOI 9	AOI 9	AOI 10.1	AOI 10.1	AOI 15.3	AOI 17.2
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	0.80 J	0.83 J	5.8	6.1	2.0	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2,4,5-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2,4,6-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2,4-Dichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2,4-Dimethylphenol	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	--
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 U	--
2,4-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2,6-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Chloronaphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Chlorophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Methylnaphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Nitroaniline	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
2-Nitrophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
3,3'-Dichlorobenzidine	ug/L	1.0 UJ	10 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--
3-Nitroaniline	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 U	--
4-Bromophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
4-Chloro-3-methylphenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
4-Chloroaniline	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--
4-Chlorophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
4-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
4-Nitroaniline	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	--
4-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 U	--
Acenaphthene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Acenaphthylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Acetophenone	ug/L	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	2.5 UJ	--
Anthracene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Atrazine	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Benzaldehyde	ug/L	R	R	R	R	R	--
Benzo(a)anthracene	ug/L	0.50 U	0.50 U	0.73	0.50 U	2.5 U	--
Benzo(a)pyrene	ug/L	0.50 U	0.50 U	0.53	0.50 U	2.5 U	--
Benzo(b)fluoranthene	ug/L	0.50 U	0.50 U	0.65	0.50 U	2.5 U	--
Benzo(g,h,i)perylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Benzo(k)fluoranthene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
SVOCs (continued)							

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Sample Location:		**SB192-12**	**SB194-12**	**SB195-12**	**SB195-12**	**SB197-12**	**SB199-12**
Sample Identification:		**GW-17360-103012-DD-114**	**GW-17360-103012-DD-119**	**GW-17360-102612-DD-110**	**GW-17360-102612-DD-111**	**GW-17360-102512-DD-105**	**GW-17360-103112-DD-175**
Sample Date:		**10/30/2012**	**10/30/2012**	**10/26/2012**	**10/26/2012**	**10/25/2012**	**10/31/2012**
Sample Type:					**Duplicate**		
Depth:		**(16-) ft BGS**	**(15-) ft BGS**	**(16-) ft BGS**	**(16-) ft BGS**	**(15.5-) ft BGS**	**(16-) ft BGS**
AOI:		**AOI 9**	**AOI 9**	**AOI 10.1**	**AOI 10.1**	**AOI 15.3**	**AOI 17.2**
Biphenyl (1,1-Biphenyl)	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
bis(2-Chloroethoxy)methane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
bis(2-Chloroethyl)ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.50 U	0.52	0.50 U	0.50 U	2.5 U	--
Butyl benzylphthalate (BBP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	--
Caprolactam	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	--
Carbazole	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Chrysene	ug/L	0.50 U	0.50 U	0.60	0.50 U	2.5 U	--
Dibenz(a,h)anthracene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Dibenzofuran	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Diethyl phthalate	ug/L	0.68	0.50 U	0.90	1.0	3.6	--
Dimethyl phthalate	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Di-n-butylphthalate (DBP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	--
Di-n-octyl phthalate (DnOP)	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Fluoranthene	ug/L	0.50 U	0.50 U	0.72	0.66	2.5 U	--
Fluorene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Hexachlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Hexachlorocyclopentadiene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Hexachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Indeno(1,2,3-cd)pyrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Isophorone	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Nitrobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
N-Nitrosodi-n-propylamine	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
N-Nitrosodiphenylamine	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Pentachlorophenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Phenanthrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Phenol	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	--
Pyrene	ug/L	0.50 U	0.50 U	1.1	0.83	2.5 U	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--
Total PCBs	ug/L	0	0	0	0	0	--

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Sample Location:		SB192-12	SB194-12	SB195-12	SB195-12	SB197-12	SB199-12
Sample Identification:		GW-17360-103012-DD-114	GW-17360-103012-DD-119	GW-17360-102612-DD-110	GW-17360-102612-DD-111	GW-17360-102512-DD-105	GW-17360-103112-DD-175
Sample Date:		10/30/2012	10/30/2012	10/26/2012	10/26/2012	10/25/2012	10/31/2012
Sample Type:					Duplicate		
Depth:		(16-) ft BGS	(15-) ft BGS	(16-) ft BGS	(16-) ft BGS	(15.5-) ft BGS	(16-) ft BGS
AOI:		AOI 9	AOI 9	AOI 10.1	AOI 10.1	AOI 15.3	AOI 17.2
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	0.47 J	0.18 J	**8.9[ab]**	**9.0[ab]**	1.7	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	0.59 J	0.55 J	7.0	7.0	1.6	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	27	28	11	11	29	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.059 J	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	0.50 J	0.52 J	**37[c]**	**38[c]**	0.46 J	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	1.8	2.2	3.5	3.5	4.6	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	0.95 J	1.4	**34[c]**	**33[c]**	6.3	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	13 J	23	37 J	22 J	**520 J[ab]**	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	1.0 U	1.0 U	0.61 J	0.62 J	0.85 J	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	**190[ab]**	**250[ab]**	2.1 J	0.97 J	**98[ab]**	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	7.3	5.7	13	13	9.9	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	3.5	7.4	6.8	6.3	10	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	1.3	2.4	0.96 J	1.0 U	0.79 J	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	0.041 J	1.0 U	1.0 U	1.0 U	1.0 U	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	1.0 U	0.19 J	**18[a]**	**18[a]**	2.0	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	8.6 J	18	18	11	14	--

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Sample Location:		**SB199-12**	**SB199-12**	**SB214-12**	**VAS 48-13**	**VAS 48-13**	**VAS 48-13**
Sample Identification:		**GW-17360-103112-DD-176**	**GW-17360-103112-DD-177**	**GW-17360-103012-DD-126**	**GW-17360-050613-BW-001**	**GW-17360-050613-BW-002**	**GW-17360-050613-BW-003**
Sample Date:		**10/31/2012**	**10/31/2012**	**10/30/2012**	**5/6/2013**	**5/6/2013**	**5/6/2013**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(16-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 17.2**	**AOI 17.2**	**AOI 31**	**AOI 3**	**AOI 3**	**AOI 3**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	1.9 J	50 U	5.0 U	50 U	50 U	50 U
Benzene	ug/L	0.42 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	14	30	1.0 U	1.0 U	1.4	1.8
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	0.37 J	1.0 U	1.0 U	1.0 U
Toluene	ug/L	0.70 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**SB199-12**	**SB199-12**	**SB214-12**	**VAS 48-13**	**VAS 48-13**	**VAS 48-13**
Sample Identification:		**GW-17360-103112-DD-176**	**GW-17360-103112-DD-177**	**GW-17360-103012-DD-126**	**GW-17360-050613-BW-001**	**GW-17360-050613-BW-002**	**GW-17360-050613-BW-003**
Sample Date:		**10/31/2012**	**10/31/2012**	**10/30/2012**	**5/6/2013**	**5/6/2013**	**5/6/2013**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(16-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 17.2**	**AOI 17.2**	**AOI 31**	**AOI 3**	**AOI 3**	**AOI 3**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	0.50 U	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	0.50 U	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	0.50 U	--	--	--
2,4-Dichlorophenol	ug/L	--	--	0.50 U	--	--	--
2,4-Dimethylphenol	ug/L	--	--	1.0 U	--	--	--
2,4-Dinitrophenol	ug/L	--	--	5.0 U	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	0.50 U	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	0.50 U	--	--	--
2-Chloronaphthalene	ug/L	--	--	0.50 U	--	--	--
2-Chlorophenol	ug/L	--	--	0.50 U	--	--	--
2-Methylnaphthalene	ug/L	--	--	0.50 U	--	--	--
2-Methylphenol	ug/L	--	--	0.50 U	--	--	--
2-Nitroaniline	ug/L	--	--	0.50 U	--	--	--
2-Nitrophenol	ug/L	--	--	0.50 U	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	1.0 UJ	--	--	--
3-Nitroaniline	ug/L	--	--	1.0 UJ	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	5.0 U	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	0.50 U	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	0.50 U	--	--	--
4-Chloroaniline	ug/L	--	--	1.0 UJ	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	0.50 U	--	--	--
4-Methylphenol	ug/L	--	--	0.50 U	--	--	--
4-Nitroaniline	ug/L	--	--	1.0 U	--	--	--
4-Nitrophenol	ug/L	--	--	5.0 U	--	--	--
Acenaphthene	ug/L	--	--	0.50 U	--	--	--
Acenaphthylene	ug/L	--	--	0.50 U	--	--	--
Acetophenone	ug/L	--	--	0.50 UJ	--	--	--
Anthracene	ug/L	--	--	0.50 U	--	--	--
Atrazine	ug/L	--	--	0.50 U	--	--	--
Benzaldehyde	ug/L	--	--	R	--	--	--
Benzo(a)anthracene	ug/L	--	--	**2.8[a]**	--	--	--
Benzo(a)pyrene	ug/L	--	--	**2.8[f]**	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	**2.8[abf]**	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	**1.9[abf]**	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	**2.2[abf]**	--	--	--
SVOCs (continued)							

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Sample Location:		**SB199-12**	**SB199-12**	**SB214-12**	**VAS 48-13**	**VAS 48-13**	**VAS 48-13**
Sample Identification:		**GW-17360-103112-DD-176**	**GW-17360-103112-DD-177**	**GW-17360-103012-DD-126**	**GW-17360-050613-BW-001**	**GW-17360-050613-BW-002**	**GW-17360-050613-BW-003**
Sample Date:		**10/31/2012**	**10/31/2012**	**10/30/2012**	**5/6/2013**	**5/6/2013**	**5/6/2013**
Sample Type:							
Depth:		**(26-) ft BGS**	**(36-) ft BGS**	**(16-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**
AOI:		**AOI 17.2**	**AOI 17.2**	**AOI 31**	**AOI 3**	**AOI 3**	**AOI 3**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	0.50 U	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	0.50 U	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	0.50 U	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	0.62	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	1.0 U	--	--	--
Caprolactam	ug/L	--	--	1.0 U	--	--	--
Carbazole	ug/L	--	--	0.50 U	--	--	--
Chrysene	ug/L	--	--	**3.0[abf]**	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	0.66	--	--	--
Dibenzofuran	ug/L	--	--	0.50 U	--	--	--
Diethyl phthalate	ug/L	--	--	0.93	--	--	--
Dimethyl phthalate	ug/L	--	--	0.50 U	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	1.0 U	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	0.50 U	--	--	--
Fluoranthene	ug/L	--	--	**3.9[c]**	--	--	--
Fluorene	ug/L	--	--	0.50 U	--	--	--
Hexachlorobenzene	ug/L	--	--	0.50 U	--	--	--
Hexachlorobutadiene	ug/L	--	--	0.50 U	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	0.50 U	--	--	--
Hexachloroethane	ug/L	--	--	0.50 U	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	**1.9[f]**	--	--	--
Isophorone	ug/L	--	--	0.50 U	--	--	--
Naphthalene	ug/L	--	--	0.50 U	--	--	--
Nitrobenzene	ug/L	--	--	0.50 U	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	0.50 U	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	0.50 U	--	--	--
Pentachlorophenol	ug/L	--	--	0.50 U	--	--	--
Phenanthrene	ug/L	--	--	0.50 U	--	--	--
Phenol	ug/L	--	--	0.50 U	--	--	--
Pyrene	ug/L	--	--	3.5	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	0.20 U	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	0.20 U	--	--	--
Total PCBs	ug/L	--	--	0	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
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Sample Location:		SB199-12	SB199-12	SB214-12	VAS 48-13	VAS 48-13	VAS 48-13
Sample Identification:		GW-17360-103112-DD-176	GW-17360-103112-DD-177	GW-17360-103012-DD-126	GW-17360-050613-BW-001	GW-17360-050613-BW-002	GW-17360-050613-BW-003
Sample Date:		10/31/2012	10/31/2012	10/30/2012	5/6/2013	5/6/2013	5/6/2013
Sample Type:							
Depth:		(26-) ft BGS	(36-) ft BGS	(16-) ft BGS	(16-) ft BGS	(26-) ft BGS	(36-) ft BGS
AOI:		AOI 17.2	AOI 17.2	AOI 31	AOI 3	AOI 3	AOI 3
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	0.17 J	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	0.61 J	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	29	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	1.0 U	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	0.20 U	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	0.55 J	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	3.1	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	1.3	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	97	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	1.0 U	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	**250[ab]**	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	0.20 U	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	8.6	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	8.0	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	3.9	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	0.20 U	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	0.035 J	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	1.0 U	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	8.5 J	--	--	--

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Sample Location:		**VAS 48-13**	**VAS 48-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**
Sample Identification:		**GW-17360-050613-BW-004**	**GW-17360-050613-BW-005**	**GW-17360-050813-BW-006**	**GW-17360-050813-BW-007**	**GW-17360-050813-BW-008**	**GW-17360-050813-BW-010**
Sample Date:		**5/6/2013**	**5/6/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**
Sample Type:							
Depth:		**(46-) ft BGS**	**(51-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**	**(39-) ft BGS**
AOI:		**AOI 3**	**AOI 3**	**AOI 1**	**AOI 1**	**AOI 1**	**AOI 1**
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	6.1 J	50 U	3.0 J	4.2 J	8.5 J
Benzene	ug/L	1.0 U	0.45 J	1.0 U	1.0 U	0.33 J	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	0.27 J	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	**54[ab]**	**120[abc]**	**190[abc]**	**65[abc]**
Toluene	ug/L	0.35 J	0.78 J	1.0 U	1.0 U	0.73 J	0.58 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VOCs (continued)							

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Sample Location:		**VAS 48-13**	**VAS 48-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**
Sample Identification:		**GW-17360-050613-BW-004**	**GW-17360-050613-BW-005**	**GW-17360-050813-BW-006**	**GW-17360-050813-BW-007**	**GW-17360-050813-BW-008**	**GW-17360-050813-BW-010**
Sample Date:		**5/6/2013**	**5/6/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**
Sample Type:							
Depth:		**(46-) ft BGS**	**(51-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**	**(39-) ft BGS**
AOI:		**AOI 3**	**AOI 3**	**AOI 1**	**AOI 1**	**AOI 1**	**AOI 1**
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.6	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	0.42 J	3.0 U	3.0 U	0.33 J	3.0 U
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
SVOCs (continued)							

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**VAS 48-13**	**VAS 48-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**
Sample Identification:		**GW-17360-050613-BW-004**	**GW-17360-050613-BW-005**	**GW-17360-050813-BW-006**	**GW-17360-050813-BW-007**	**GW-17360-050813-BW-008**	**GW-17360-050813-BW-010**
Sample Date:		**5/6/2013**	**5/6/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**
Sample Type:							
Depth:		**(46-) ft BGS**	**(51-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**	**(39-) ft BGS**
AOI:		**AOI 3**	**AOI 3**	**AOI 1**	**AOI 1**	**AOI 1**	**AOI 1**
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--

Temporary Monitoring Well and Vertical Aquifer Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**VAS 48-13**	**VAS 48-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**	**VAS 49-13**
Sample Identification:		**GW-17360-050613-BW-004**	**GW-17360-050613-BW-005**	**GW-17360-050813-BW-006**	**GW-17360-050813-BW-007**	**GW-17360-050813-BW-008**	**GW-17360-050813-BW-010**
Sample Date:		**5/6/2013**	**5/6/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**	**5/8/2013**
Sample Type:							
Depth:		**(46-) ft BGS**	**(51-) ft BGS**	**(16-) ft BGS**	**(26-) ft BGS**	**(36-) ft BGS**	**(39-) ft BGS**
AOI:		**AOI 3**	**AOI 3**	**AOI 1**	**AOI 1**	**AOI 1**	**AOI 1**
Metals							
Antimony	ug/L	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--

Table 3.3

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Cole Drain 1**	**Cole Drain 2**	**Cole Drain 3**	**Cole Drain 4**	**Retention Pond Inlet**
Sample Identification:		**CD1~010787**	**CD2~010787**	**CD3~010787**	**CD4~010787**	**RPI~061587**
Sample Date:		**1/7/1987**	**1/7/1987**	**1/7/1987**	**1/7/1987**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	8
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	2 U
1,1,2-Trichloroethane	ug/L	--	--	--	--	3 U
1,1-Dichloroethane	ug/L	--	--	--	--	2 U
1,1-Dichloroethene	ug/L	--	--	--	--	2 U
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	2 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	3 U
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	10 U
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	1 U
Bromodichloromethane	ug/L	--	--	--	--	3
Bromoform	ug/L	--	--	--	--	15 U
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	10 U
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	4 U
Chlorobenzene	ug/L	--	--	--	--	1 U
Chloroethane	ug/L	--	--	--	--	10 U
Chloroform (Trichloromethane)	ug/L	--	--	--	--	5
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	10 U
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	4 U
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	3 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	1 U
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Table 3.3

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Cole Drain 1**	**Cole Drain 2**	**Cole Drain 3**	**Cole Drain 4**	**Retention Pond Inlet**
Sample Identification:		**CD1~010787**	**CD2~010787**	**CD3~010787**	**CD4~010787**	**RPI~061587**
Sample Date:		**1/7/1987**	**1/7/1987**	**1/7/1987**	**1/7/1987**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	2 U
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	2 U
Toluene	ug/L	--	--	--	--	1 U
trans-1,2-Dichloroethene	ug/L	--	--	--	--	2 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	4 U
Trichloroethene	ug/L	4.4	3.6	4.8	2.7	2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	3 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	10 U
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Cole Drain 1**	**Cole Drain 2**	**Cole Drain 3**	**Cole Drain 4**	**Retention Pond Inlet**
Sample Identification:		**CD1~010787**	**CD2~010787**	**CD3~010787**	**CD4~010787**	**RPI~061587**
Sample Date:		**1/7/1987**	**1/7/1987**	**1/7/1987**	**1/7/1987**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Retention Pond Outlet**	**Cole Drain 8**	**Cole Drain 9**	**Cole Drain 10**	**Cole Drain Upstream**
Sample Identification:		**RPO~061587**	**CD8~060888**	**CD9~060888**	**CD10~060888**	**CDU~061587**
Sample Date:		**6/15/1987**	**6/8/1988**	**6/8/1988**	**6/8/1988**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	4	--	--	--	2 U
1,1,2,2-Tetrachloroethane	ug/L	2 U	--	--	--	2 U
1,1,2-Trichloroethane	ug/L	3 U	--	--	--	3 U
1,1-Dichloroethane	ug/L	2 U	--	--	--	2 U
1,1-Dichloroethene	ug/L	2 U	--	--	--	2 U
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	2 U	--	--	--	2 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	3 U	--	--	--	3 U
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	10 U	--	--	--	10 U
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	1 U	--	--	--	1 U
Bromodichloromethane	ug/L	2 U	--	--	--	2 U
Bromoform	ug/L	15 U	--	--	--	15 U
Bromomethane (Methyl bromide)	ug/L	10 U	--	--	--	10 U
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	4 U	--	--	--	4 U
Chlorobenzene	ug/L	1 U	--	--	--	1 U
Chloroethane	ug/L	10 U	--	--	--	10 U
Chloroform (Trichloromethane)	ug/L	3	--	--	--	1 U
Chloromethane (Methyl chloride)	ug/L	10 U	--	--	--	10 U
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	4 U	--	--	--	4 U
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	3 U	--	--	--	3 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	1 U	--	--	--	1 U
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Retention Pond Outlet**	**Cole Drain 8**	**Cole Drain 9**	**Cole Drain 10**	**Cole Drain Upstream**
Sample Identification:		**RPO~061587**	**CD8~060888**	**CD9~060888**	**CD10~060888**	**CDU~061587**
Sample Date:		**6/15/1987**	**6/8/1988**	**6/8/1988**	**6/8/1988**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	2 U	--	--	--	2 U
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	2 U	--	--	--	11
Toluene	ug/L	1 U	--	--	--	1 U
trans-1,2-Dichloroethene	ug/L	2 U	--	--	--	2 U
trans-1,3-Dichloropropene	ug/L	4 U	--	--	--	4 U
Trichloroethene	ug/L	2	2 U	2 U	2	4
Trichlorofluoromethane (CFC-11)	ug/L	3 U	--	--	--	3 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	10 U	--	--	--	10 U
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**Retention Pond Outlet**	**Cole Drain 8**	**Cole Drain 9**	**Cole Drain 10**	**Cole Drain Upstream**
Sample Identification:		**RPO~061587**	**CD8~060888**	**CD9~060888**	**CD10~060888**	**CDU~061587**
Sample Date:		**6/15/1987**	**6/8/1988**	**6/8/1988**	**6/8/1988**	**6/15/1987**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E11604~12/21/88**	**E15514~03/17/89**	**E21126~06/15/89**	**E25727~09/22/89**	**E30994~12/21/89**	**E35827~03/16/90**
Sample Date:		**12/21/1988**	**3/17/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**	**3/16/1990**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E11604~12/21/88**	**E15514~03/17/89**	**E21126~06/15/89**	**E25727~09/22/89**	**E30994~12/21/89**	**E35827~03/16/90**
Sample Date:		**12/21/1988**	**3/17/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**	**3/16/1990**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	3	2.4	1 U	1	1 U	2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E11604~12/21/88**	**E15514~03/17/89**	**E21126~06/15/89**	**E25727~09/22/89**	**E30994~12/21/89**	**E35827~03/16/90**
Sample Date:		**12/21/1988**	**3/17/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**	**3/16/1990**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-1	C-1	C-1	C-1	C-1	C-1
Sample Identification:		E42021~06/19/90	E48225~09/14/90	E54819~12/17/90	E59917~03/11/91	E67566~06/13/91	E72973~09/12/91
Sample Date:		6/19/1990	9/14/1990	12/17/1990	3/11/1991	6/13/1991	9/12/1991
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	1 U	2 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E42021~06/19/90**	**E48225~09/14/90**	**E54819~12/17/90**	**E59917~03/11/91**	**E67566~06/13/91**	**E72973~09/12/91**
Sample Date:		**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**	**9/12/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1	1 U	4	5	4	4
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E42021~06/19/90**	**E48225~09/14/90**	**E54819~12/17/90**	**E59917~03/11/91**	**E67566~06/13/91**	**E72973~09/12/91**
Sample Date:		**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**	**9/12/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E07648~12/13/91**	**E15389~03/13/92**	**E23263~06/12/92**	**E31918~09/11/92**	**E40327~12/10/92**	**E47628~03/11/93**
Sample Date:		**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/10/1992**	**3/11/1993**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E07648~12/13/91**	**E15389~03/13/92**	**E23263~06/12/92**	**E31918~09/11/92**	**E40327~12/10/92**	**E47628~03/11/93**
Sample Date:		**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/10/1992**	**3/11/1993**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	5	4	2.6	1.7	2	2.1
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E07648~12/13/91**	**E15389~03/13/92**	**E23263~06/12/92**	**E31918~09/11/92**	**E40327~12/10/92**	**E47628~03/11/93**
Sample Date:		**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/10/1992**	**3/11/1993**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E56590~06/15/93**	**E66029~09/15/93**	**E75746~12/17/93**	**E81243~03/16/94**	**E89395~06/14/94**	**E97441~09/14/94**
Sample Date:		**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**	**9/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E56590~06/15/93**	**E66029~09/15/93**	**E75746~12/17/93**	**E81243~03/16/94**	**E89395~06/14/94**	**E97441~09/14/94**
Sample Date:		**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**	**9/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2.1	2	1.7	2.1	1.1	1 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E56590~06/15/93**	**E66029~09/15/93**	**E75746~12/17/93**	**E81243~03/16/94**	**E89395~06/14/94**	**E97441~09/14/94**
Sample Date:		**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**	**9/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E106400~12/16/94**	**E112944~03/17/95**	**E120793~06/20/95**	**E127385~09/14/95**	**E134967~12/18/95**	**E139844~03/19/96**
Sample Date:		**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**	**3/19/1996**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	2 U	2 U	2 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E106400~12/16/94**	**E112944~03/17/95**	**E120793~06/20/95**	**E127385~09/14/95**	**E134967~12/18/95**	**E139844~03/19/96**
Sample Date:		**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**	**3/19/1996**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1.4	1.8	1.1	1 U	1 U	1 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E106400~12/16/94**	**E112944~03/17/95**	**E120793~06/20/95**	**E127385~09/14/95**	**E134967~12/18/95**	**E139844~03/19/96**
Sample Date:		**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**	**3/19/1996**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E146846~06/13/96**	**E154130~09/13/96**	**E161524~12/12/96**	**E166211~03/13/97**	**E172383~06/19/97**	**E177743~09/11/97**
Sample Date:		**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**	**9/11/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E146846~06/13/96**	**E154130~09/13/96**	**E161524~12/12/96**	**E166211~03/13/97**	**E172383~06/19/97**	**E177743~09/11/97**
Sample Date:		**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**	**9/11/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1.3	1 U	1 U	1.6	1 U	1 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E146846~06/13/96**	**E154130~09/13/96**	**E161524~12/12/96**	**E166211~03/13/97**	**E172383~06/19/97**	**E177743~09/11/97**
Sample Date:		**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**	**9/11/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E184902~12/16/97**	**E190821~03/12/98**	**82953-3398~06/16/98**	**84367-8365~09/17/98**	**85755-2521~12/16/98**
Sample Date:		**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	1 U	2 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E184902~12/16/97**	**E190821~03/12/98**	**82953-3398~06/16/98**	**84367-8365~09/17/98**	**85755-2521~12/16/98**
Sample Date:		**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**E184902~12/16/97**	**E190821~03/12/98**	**82953-3398~06/16/98**	**84367-8365~09/17/98**	**85755-2521~12/16/98**
Sample Date:		**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**90995-6092~03/10/99**	**3990294013~06/15/99**	**3991971007~09/20/99**	**3993622013~12/16/99**	**3001152010~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	2 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**90995-6092~03/10/99**	**3990294013~06/15/99**	**3991971007~09/20/99**	**3993622013~12/16/99**	**3001152010~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**90995-6092~03/10/99**	**3990294013~06/15/99**	**3991971007~09/20/99**	**3993622013~12/16/99**	**3001152010~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**3002633012~06/13/00**	**E261226~09/22/00**	**E268216~12/20/00**	**E274381~03/21/01**	**E281017~06/13/01**	**E287741~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/13/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1.2	1 U	1 U	1 U	2.5	1 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**3002633012~06/13/00**	**E261226~09/22/00**	**E268216~12/20/00**	**E274381~03/21/01**	**E281017~06/13/01**	**E287741~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/13/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1 U	1 U	1 U	1.4	2.3	1.3
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	20 U
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**3002633012~06/13/00**	**E261226~09/22/00**	**E268216~12/20/00**	**E274381~03/21/01**	**E281017~06/13/01**	**E287741~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/13/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	292000
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW--032802-TJ-015**	**GW-062702-JB-034**	**GW-092602-JB-056**	**GW-17360-120902-JB-086**	**GW-17360-120902-JB-087**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**12/9/2002**
Sample Type:						**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	1.8	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW--032802-TJ-015**	**GW-062702-JB-034**	**GW-092602-JB-056**	**GW-17360-120902-JB-086**	**GW-17360-120902-JB-087**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**12/9/2002**
Sample Type:						**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	1.9	1.1	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW--032802-TJ-015**	**GW-062702-JB-034**	**GW-092602-JB-056**	**GW-17360-120902-JB-086**	**GW-17360-120902-JB-087**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**12/9/2002**
Sample Type:						**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-032103-JB-106**	**GW-17360-071403-SP-050**	**GW-17360-100103-JB-080**	**GW-17360-121803-JB-108**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	--	1.0 U	0.37 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	25 UJ	25 UJ	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	--	50 UJ	50 UJ	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	50 U	50 U	50 U
Acetone	ug/L	--	25 UJ	25 UJ	1.7 J
Benzene	ug/L	--	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	--	1.0 U	0.22 J	0.44 J
Bromoform	ug/L	--	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	--	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	--	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	--	1.0 U	0.22 J	0.62 J
Chloromethane (Methyl chloride)	ug/L	--	1.0 UJ	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	5.4	1.0 U
cis-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	--	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	--	1.0 U	1.0 U	0.32 J
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	--	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	--	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	--	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-032103-JB-106**	**GW-17360-071403-SP-050**	**GW-17360-100103-JB-080**	**GW-17360-121803-JB-108**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	--	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	--	5.0 U	5.0 U	0.28 J
Methylene chloride	ug/L	--	5.0 U	5.0 U	5.0 U
Styrene	ug/L	--	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	--	1.0 U	2.0	0.63 J
Toluene	ug/L	--	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.4	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	--	1.0 U	0.70 J	1.0 U
Xylenes (total)	ug/L	--	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	0.50 U	--	--
Ethene	ug/L	--	0.50 U	--	--
Methane	ug/L	--	2.5	--	--
Metals					
Calcium	ug/L	--	80600	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	17000	--	--
Manganese	ug/L	--	56 U	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-032103-JB-106**	**GW-17360-071403-SP-050**	**GW-17360-100103-JB-080**	**GW-17360-121803-JB-108**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	200000	--	--
Chloride	ug/L	--	198000	--	--
Hardness	ug/L	--	300000	--	--
Nitrate (as N)	ug/L	--	2100	--	--
Nitrite (as N)	ug/L	--	140	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	42400	--	--
Sulfide	ug/L	--	750 J	--	--
Total organic carbon (TOC)	ug/L	--	5000	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-031504-BW-134**	**GW-17360-081104-DCR-231**	**GW-17360-100604-DCR-278**	**GW-17360-120204-DCR-318**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	1.5 J	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	0.24 J	0.41 J	1.0 U
Bromoform	ug/L	1.0 U	0.75 J	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.31 J	0.59 J	0.28 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.78 J	0.42 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	0.26 J	0.41 J	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-031504-BW-134**	**GW-17360-081104-DCR-231**	**GW-17360-100604-DCR-278**	**GW-17360-120204-DCR-318**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.8	2.8	0.59 J	0.66 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.60 J	0.50 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-031504-BW-134**	**GW-17360-081104-DCR-231**	**GW-17360-100604-DCR-278**	**GW-17360-120204-DCR-318**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-040505-DCR-342**	**GW-17360-062805-DCR-388**	**GW-17360-120605-DCR-582**	**GW-17360-091206-DR-038**
Sample Date:		**4/5/2005**	**6/28/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 UJ	1.0 U	0.24 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 UJ	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 UJ	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 UJ	0.17 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.4	0.58 J	3.1 J	0.33 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-040505-DCR-342**	**GW-17360-062805-DCR-388**	**GW-17360-120605-DCR-582**	**GW-17360-091206-DR-038**
Sample Date:		**4/5/2005**	**6/28/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	9.8 J	2.8	0.99 J	1.0 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.4	0.61 J	1.9	0.50 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	0.36 J	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-040505-DCR-342**	**GW-17360-062805-DCR-388**	**GW-17360-120605-DCR-582**	**GW-17360-091206-DR-038**
Sample Date:		**4/5/2005**	**6/28/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-050807-JY-052**	**GW-17360-101507-DR-095**	**GW-17360-042108-DR-150**	**GW-17360-100608-DR-198**
Sample Date:		**5/8/2007**	**10/15/2007**	**4/21/2008**	**10/6/2008**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 UJ	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 UJ	50 U	50 U
Acetone	ug/L	25 UJ	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	4.5	0.43 J	2.1	2.2
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 UJ	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-050807-JY-052**	**GW-17360-101507-DR-095**	**GW-17360-042108-DR-150**	**GW-17360-100608-DR-198**
Sample Date:		**5/8/2007**	**10/15/2007**	**4/21/2008**	**10/6/2008**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Tetrachloroethene	ug/L	15	1.4	9.1 J	7.6 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	2.7	0.47 J	1.5	1.5
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 UJ
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-050807-JY-052**	**GW-17360-101507-DR-095**	**GW-17360-042108-DR-150**	**GW-17360-100608-DR-198**
Sample Date:		**5/8/2007**	**10/15/2007**	**4/21/2008**	**10/6/2008**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-100608-DR-199**	**WS-17360-040609-DR-235**	**GW-17360-100609-DR-276**	**GW-17360-100609-DR-277**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/6/2009**
Sample Type:		**Duplicate**			**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Carbon disulfide	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	2.1	1.9	1.1	1.1
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	10 UJ

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-100608-DR-199**	**WS-17360-040609-DR-235**	**GW-17360-100609-DR-276**	**GW-17360-100609-DR-277**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/6/2009**
Sample Type:		**Duplicate**			**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	7.7 J	8.2	4.1	4.3
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	1.5	1.3	0.90 J	1.0
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 UJ	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**GW-17360-100608-DR-199**	**WS-17360-040609-DR-235**	**GW-17360-100609-DR-276**	**GW-17360-100609-DR-277**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/6/2009**
Sample Type:		**Duplicate**			**Duplicate**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**SW-17360-101110-BW-045**	**SW-17360-101110-BW-046**	**GW-17360-020911-DR-010**	**GW-17360-092911-EM-047**
Sample Date:		**10/11/2010**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:			**Duplicate**		
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	1.1 J
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U
Acetone	ug/L	25 UJ	25 UJ	25 U	11
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.51 J	0.50 J	0.42 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**SW-17360-101110-BW-045**	**SW-17360-101110-BW-046**	**GW-17360-020911-DR-010**	**GW-17360-092911-EM-047**
Sample Date:		**10/11/2010**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:			**Duplicate**		
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	0.27 J
Tetrachloroethene	ug/L	0.89 J	0.92 J	1.0 U	0.57 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	0.54 J	0.51 J	0.40 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	3.0 U	0.71 J
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**SW-17360-101110-BW-045**	**SW-17360-101110-BW-046**	**GW-17360-020911-DR-010**	**GW-17360-092911-EM-047**
Sample Date:		**10/11/2010**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:			**Duplicate**		
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-1	C-1	C-1	C-1
Sample Identification:		SW-17360-103012-JV-048	WS-17360-050113-MR-013	SW-17360-102913-MR-024	SW-017360-041414-MR-003
Sample Date:		10/30/2012	5/1/2013	10/29/2013	4/14/2014
Sample Type:					
AOI		AOI 25	AOI 25	AOI 25	AOI 25
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U
Acetone	ug/L	7.1 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.28 J	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	0.87 J	3.6	1.0 U	1.6
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**SW-17360-103012-JV-048**	**WS-17360-050113-MR-013**	**SW-17360-102913-MR-024**	**SW-017360-041414-MR-003**
Sample Date:		**10/30/2012**	**5/1/2013**	**10/29/2013**	**4/14/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.7	7.4	2.2	4.7
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.55 J	2.3	1.0 U	1.1
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-1**	**C-1**	**C-1**
Sample Identification:		**SW-17360-103012-JV-048**	**WS-17360-050113-MR-013**	**SW-17360-102913-MR-024**	**SW-017360-041414-MR-003**
Sample Date:		**10/30/2012**	**5/1/2013**	**10/29/2013**	**4/14/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-1	C-2	C-2	C-2	C-2	C-2
Sample Identification:		SW-017360-100714-MR-003	E11602~12/21/88	E15515~03/17/89	E21127~06/15/89	E25728~09/22/89	E30995~12/21/89
Sample Date:		10/7/2014	12/21/1988	3/17/1989	6/15/1989	9/22/1989	12/21/1989
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1-Dichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1-Dichloroethene	ug/L	1.0 U	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
1,2-Dichloroethane	ug/L	1.0 U	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	4	3.8	3.7	4	4
1,2-Dichloropropane	ug/L	1.0 U	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	50 U	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	--	--	--	--	--
Acetone	ug/L	50 U	--	--	--	--	--
Benzene	ug/L	1.0 U	--	--	--	--	--
Bromodichloromethane	ug/L	1.0 U	--	--	--	--	--
Bromoform	ug/L	1.0 U	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	5.0 U	--	--	--	--	--
Carbon disulfide	ug/L	5.0 U	--	--	--	--	--
Carbon tetrachloride	ug/L	1.0 U	--	--	--	--	--
Chlorobenzene	ug/L	1.0 U	--	--	--	--	--
Chloroethane	ug/L	5.0 U	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	5.0 U	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	1.0	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--
Cyclohexane	ug/L	1.0 U	--	--	--	--	--
Dibromochloromethane	ug/L	5.0 U	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	--	--	--	--	--
Ethylbenzene	ug/L	1.0 U	--	--	--	--	--
Isopropyl benzene	ug/L	5.0 U	--	--	--	--	--
Methyl acetate	ug/L	10 U	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**SW-017360-100714-MR-003**	**E11602~12/21/88**	**E15515~03/17/89**	**E21127~06/15/89**	**E25728~09/22/89**	**E30995~12/21/89**
Sample Date:		**10/7/2014**	**12/21/1988**	**3/17/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	1.0 U	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	--	--	--	--	--
Methylene chloride	ug/L	5.0 U	--	--	--	--	--
Styrene	ug/L	1.0 U	--	--	--	--	--
Tetrachloroethene	ug/L	3.7	--	--	--	--	--
Toluene	ug/L	1.0 U	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--
Trichloroethene	ug/L	1.0 U	4	3.9	3	3	2
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	--	--	--	--	--
Vinyl chloride	ug/L	1.0 U	--	--	--	--	--
Xylenes (total)	ug/L	3.0 U	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-1**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**SW-017360-100714-MR-003**	**E11602~12/21/88**	**E15515~03/17/89**	**E21127~06/15/89**	**E25728~09/22/89**	**E30995~12/21/89**
Sample Date:		**10/7/2014**	**12/21/1988**	**3/17/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		E35828~03/16/90	E42022~06/19/90	E48226~09/14/90	E54820~12/17/90	E59918~03/11/91	E67567~06/13/91
Sample Date:		3/16/1990	6/19/1990	9/14/1990	12/17/1990	3/11/1991	6/13/1991
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	5	4	5	5	1 U	6
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E35828~03/16/90**	**E42022~06/19/90**	**E48226~09/14/90**	**E54820~12/17/90**	**E59918~03/11/91**	**E67567~06/13/91**
Sample Date:		**3/16/1990**	**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	3	3	3	4	4	4
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E35828~03/16/90**	**E42022~06/19/90**	**E48226~09/14/90**	**E54820~12/17/90**	**E59918~03/11/91**	**E67567~06/13/91**
Sample Date:		**3/16/1990**	**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		E72974~09/12/91	E07649~12/13/91	E15390~03/13/92	E23268~06/12/92	E31923~09/11/92	E40328~12/10/92
Sample Date:		9/12/1991	12/13/1991	3/13/1992	6/12/1992	9/11/1992	12/10/1992
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	4	4	5	8.6	6.8	3
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E72974~09/12/91**	**E07649~12/13/91**	**E15390~03/13/92**	**E23268~06/12/92**	**E31923~09/11/92**	**E40328~12/10/92**
Sample Date:		**9/12/1991**	**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/10/1992**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	3	3	4	3.9	3.3	3
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E72974~09/12/91**	**E07649~12/13/91**	**E15390~03/13/92**	**E23268~06/12/92**	**E31923~09/11/92**	**E40328~12/10/92**
Sample Date:		**9/12/1991**	**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/10/1992**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		E47629~03/11/93	E56582~06/15/93	E66051~09/15/93	E75749~12/17/93	E81248~03/16/94	E89401~06/14/94
Sample Date:		3/11/1993	6/15/1993	9/15/1993	12/17/1993	3/16/1994	6/14/1994
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1.1	4.5	9.8	4.4	7.7	1.9
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E47629~03/11/93**	**E56582~06/15/93**	**E66051~09/15/93**	**E75749~12/17/93**	**E81248~03/16/94**	**E89401~06/14/94**
Sample Date:		**3/11/1993**	**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1.8	3.2	4.6	2.8	4.1	1.9
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E47629~03/11/93**	**E56582~06/15/93**	**E66051~09/15/93**	**E75749~12/17/93**	**E81248~03/16/94**	**E89401~06/14/94**
Sample Date:		**3/11/1993**	**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E97449~09/14/94**	**E106402~12/16/94**	**E112945~03/17/95**	**E120797~06/20/95**	**E127387~09/14/95**	**E134968~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	3.8	3.4	4.4	3.6	2.7	3.6
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E97449~09/14/94**	**E106402~12/16/94**	**E112945~03/17/95**	**E120797~06/20/95**	**E127387~09/14/95**	**E134968~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2.3	2.4	3	2.3	1.5	1.9
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E97449~09/14/94**	**E106402~12/16/94**	**E112945~03/17/95**	**E120797~06/20/95**	**E127387~09/14/95**	**E134968~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E139848~03/19/96**	**E146847~06/13/96**	**E154129~09/13/96**	**E161525~12/12/96**	**E166221~03/13/97**	**E172384~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1 U	4.7	4.8	4.2	4.5	4.1
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E139848~03/19/96**	**E146847~06/13/96**	**E154129~09/13/96**	**E161525~12/12/96**	**E166221~03/13/97**	**E172384~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1 U	2.8	2.5	2.5	3.1	1.6
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E139848~03/19/96**	**E146847~06/13/96**	**E154129~09/13/96**	**E161525~12/12/96**	**E166221~03/13/97**	**E172384~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E177744~09/11/97**	**E184908~12/16/97**	**E190820~03/12/98**	**82953-3405~06/16/98**	**84367-8371~09/17/98**	**85755-2558~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	4.2	4.4	2.7	2	1	2
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E177744~09/11/97**	**E184908~12/16/97**	**E190820~03/12/98**	**82953-3405~06/16/98**	**84367-8371~09/17/98**	**85755-2558~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2.3	2.1	1 U	1	1 U	2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**E177744~09/11/97**	**E184908~12/16/97**	**E190820~03/12/98**	**82953-3405~06/16/98**	**84367-8371~09/17/98**	**85755-2558~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/12/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**90995-6097~03/10/99**	**3990294019~06/15/99**	**3991971013~09/20/99**	**3993622016~12/16/99**	**3001152015~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2	2.4	2.3	2.4	2.4
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**90995-6097~03/10/99**	**3990294019~06/15/99**	**3991971013~09/20/99**	**3993622016~12/16/99**	**3001152015~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	1	1.9	2	1.8	1.7
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**90995-6097~03/10/99**	**3990294019~06/15/99**	**3991971013~09/20/99**	**3993622016~12/16/99**	**3001152015~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		3002633016~06/13/00	E261228~09/22/00	E268219~12/20/00	E274383~03/21/01	E281023~06/14/01	E287744~09/13/01
Sample Date:		6/13/2000	9/22/2000	12/20/2000	3/21/2001	6/14/2001	9/13/2001
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	4.2	8.9	7.3	4.8	5.2	2.8
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**3002633016~06/13/00**	**E261228~09/22/00**	**E268219~12/20/00**	**E274383~03/21/01**	**E281023~06/14/01**	**E287744~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/14/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2	2.5	3.2	2	2.5	2.8
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**3002633016~06/13/00**	**E261228~09/22/00**	**E268219~12/20/00**	**E274383~03/21/01**	**E281023~06/14/01**	**E287744~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/14/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW--032802-TJ-017**	**GW-062702-JB-030**	**GW-092602-JB-057**	**GW-17360-120902-JB-081**	**GW-17360-032103-JB-102**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**3/21/2003**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	5.2	3.9	3.8	4.0	4.5
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW--032802-TJ-017**	**GW-062702-JB-030**	**GW-092602-JB-057**	**GW-17360-120902-JB-081**	**GW-17360-032103-JB-102**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**3/21/2003**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	2.4	1.9	2.2	2.0	2.1
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW--032802-TJ-017**	**GW-062702-JB-030**	**GW-092602-JB-057**	**GW-17360-120902-JB-081**	**GW-17360-032103-JB-102**
Sample Date:		**3/28/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**	**3/21/2003**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-071403-SP-051**	**GW-17360-100103-JB-081**	**GW-17360-121803-JB-109**	**GW-17360-031504-BW-130**
Sample Date:		**7/14/2003**	**10/1/2003**	**12/18/2003**	**3/15/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	0.39 J	1.0 U	0.26 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 UJ	25 UJ	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 UJ	50 UJ	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	25 UJ	25 UJ	1.4 J	1.0 J
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	0.39 J	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.22 J	0.67 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	3.5	5.2	1.0 U	4.0
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	0.34 J	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-071403-SP-051**	**GW-17360-100103-JB-081**	**GW-17360-121803-JB-109**	**GW-17360-031504-BW-130**
Sample Date:		**7/14/2003**	**10/1/2003**	**12/18/2003**	**3/15/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	0.30 J	5.0 UJ
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.89 J	1.9	0.61 J	1.6
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.6	1.4	1.0 U	1.5
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	0.70 J	1.0 U	0.32 J
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	0.50 U	--	--	--
Ethene	ug/L	0.50 U	--	--	--
Methane	ug/L	1.7	--	--	--
Metals					
Calcium	ug/L	96100	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	19400	--	--	--
Manganese	ug/L	64 U	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-071403-SP-051**	**GW-17360-100103-JB-081**	**GW-17360-121803-JB-109**	**GW-17360-031504-BW-130**
Sample Date:		**7/14/2003**	**10/1/2003**	**12/18/2003**	**3/15/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	250000	--	--	--
Chloride	ug/L	229000	--	--	--
Hardness	ug/L	380000	--	--	--
Nitrate (as N)	ug/L	1900	--	--	--
Nitrite (as N)	ug/L	140	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	66200	--	--	--
Sulfide	ug/L	910 J	--	--	--
Total organic carbon (TOC)	ug/L	4000	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-081104-DCR-230**	**GW-17360-100604-DCR-279**	**GW-17360-120204-DCR-319**	**GW-17360-040505-DCR-343**
Sample Date:		**8/11/2004**	**10/6/2004**	**12/2/2004**	**4/5/2005**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	0.29 J	0.28 J	0.39 J	0.39 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	0.45 J	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 UJ
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.31 J	1.0 U	1.0 UJ
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	3.1	3.0	4.7	6.8
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

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Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-081104-DCR-230**	**GW-17360-100604-DCR-279**	**GW-17360-120204-DCR-319**	**GW-17360-040505-DCR-343**
Sample Date:		**8/11/2004**	**10/6/2004**	**12/2/2004**	**4/5/2005**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.8	1.2	1.7	4.4 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.18 J
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.6	1.6	1.9	2.5
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.36 J	0.42 J	0.35 J	0.61 J
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-081104-DCR-230**	**GW-17360-100604-DCR-279**	**GW-17360-120204-DCR-319**	**GW-17360-040505-DCR-343**
Sample Date:		**8/11/2004**	**10/6/2004**	**12/2/2004**	**4/5/2005**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-062805-DCR-389**	**GW-17360-120605-DCR-583**	**GW-17360-091206-DR-039**	**GW-17360-050807-JY-053**
Sample Date:		**6/28/2005**	**12/6/2005**	**9/12/2006**	**5/8/2007**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	0.22 J	1.0 U	0.25 J	0.22 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	3.4	1.0 UJ	2.8 J	4.0
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-062805-DCR-389**	**GW-17360-120605-DCR-583**	**GW-17360-091206-DR-039**	**GW-17360-050807-JY-053**
Sample Date:		**6/28/2005**	**12/6/2005**	**9/12/2006**	**5/8/2007**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	0.26 J	1.1 J	3.9
Toluene	ug/L	1.0 U	1.0 U	0.28 J	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.5	0.30 J	1.3	1.7
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.29 J	1.0 U	0.44 J	0.37 J
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-062805-DCR-389**	**GW-17360-120605-DCR-583**	**GW-17360-091206-DR-039**	**GW-17360-050807-JY-053**
Sample Date:		**6/28/2005**	**12/6/2005**	**9/12/2006**	**5/8/2007**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-101507-DR-096**	**GW-17360-042108-DR-146**	**GW-17360-100608-DR-187**	**WS-17360-040609-DR-236**
Sample Date:		**10/15/2007**	**4/21/2008**	**10/6/2008**	**4/6/2009**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 UJ	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	2.2	2.0	2.3	2.0
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 UJ	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-101507-DR-096**	**GW-17360-042108-DR-146**	**GW-17360-100608-DR-187**	**WS-17360-040609-DR-236**
Sample Date:		**10/15/2007**	**4/21/2008**	**10/6/2008**	**4/6/2009**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	1.4	2.0 J	3.5 J	2.7
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	1.4	1.0	1.2	0.96 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Vinyl chloride	ug/L	0.27 J	0.30 J	0.22 J	0.29 J
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 UJ	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-101507-DR-096**	**GW-17360-042108-DR-146**	**GW-17360-100608-DR-187**	**WS-17360-040609-DR-236**
Sample Date:		**10/15/2007**	**4/21/2008**	**10/6/2008**	**4/6/2009**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-100609-DR-278**	**SW-17360-101110-BW-047**	**GW-17360-020911-DR-009**	**GW-17360-092911-EM-048**
Sample Date:		**10/6/2009**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	3.3 J
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U
Acetone	ug/L	25 U	25 UJ	25 U	12
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	0.28 J	0.43 J	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.45 J	0.42 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.6	1.0	1.0	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	0.42 J	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 UJ	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-100609-DR-278**	**SW-17360-101110-BW-047**	**GW-17360-020911-DR-009**	**GW-17360-092911-EM-048**
Sample Date:		**10/6/2009**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	0.32 J	0.44 J	0.27 J	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	0.13 J
Tetrachloroethene	ug/L	1.7	0.80 J	0.66 J	0.32 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.1	0.81 J	0.59 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.24 J	0.24 J	0.34 J	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	3.0 U	0.60 J
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**GW-17360-100609-DR-278**	**SW-17360-101110-BW-047**	**GW-17360-020911-DR-009**	**GW-17360-092911-EM-048**
Sample Date:		**10/6/2009**	**10/11/2010**	**2/9/2011**	**9/29/2011**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**SW-17360-103012-JV-049**	**WS-17360-050113-MR-012**	**SW-17360-102813-EB-002**	**SW-017360-041414-MR-001**
Sample Date:		**10/30/2012**	**5/1/2013**	**10/28/2013**	**4/14/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.1	2.4	1.4	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**SW-17360-103012-JV-049**	**WS-17360-050113-MR-012**	**SW-17360-102813-EB-002**	**SW-017360-041414-MR-001**
Sample Date:		**10/30/2012**	**5/1/2013**	**10/28/2013**	**4/14/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.80 J	2.1	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.47 J	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.26 J	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-2**	**C-2**	**C-2**
Sample Identification:		**SW-17360-103012-JV-049**	**WS-17360-050113-MR-012**	**SW-17360-102813-EB-002**	**SW-017360-041414-MR-001**
Sample Date:		**10/30/2012**	**5/1/2013**	**10/28/2013**	**4/14/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**SW-017360-100714-MR-001**	**E11603~12/21/88**	**E15516~03/16/89**	**E21128~06/15/89**	**E25729~09/22/89**	**E30996~12/21/89**
Sample Date:		**10/7/2014**	**12/21/1988**	**3/16/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1-Dichloroethane	ug/L	1.0 U	--	--	--	--	--
1,1-Dichloroethene	ug/L	1.0 U	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
1,2-Dichloroethane	ug/L	1.0 U	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	11	16	3.7	4	4
1,2-Dichloropropane	ug/L	1.0 U	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	50 U	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	--	--	--	--	--
Acetone	ug/L	50 U	--	--	--	--	--
Benzene	ug/L	1.0 U	--	--	--	--	--
Bromodichloromethane	ug/L	1.0 U	--	--	--	--	--
Bromoform	ug/L	1.0 U	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	5.0 U	--	--	--	--	--
Carbon disulfide	ug/L	5.0 U	--	--	--	--	--
Carbon tetrachloride	ug/L	1.0 U	--	--	--	--	--
Chlorobenzene	ug/L	1.0 U	--	--	--	--	--
Chloroethane	ug/L	5.0 U	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	5.0 U	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	1.1	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--
Cyclohexane	ug/L	1.0 U	--	--	--	--	--
Dibromochloromethane	ug/L	5.0 U	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	--	--	--	--	--
Ethylbenzene	ug/L	1.0 U	--	--	--	--	--
Isopropyl benzene	ug/L	5.0 U	--	--	--	--	--
Methyl acetate	ug/L	10 U	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-2**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**SW-017360-100714-MR-001**	**E11603~12/21/88**	**E15516~03/16/89**	**E21128~06/15/89**	**E25729~09/22/89**	**E30996~12/21/89**
Sample Date:		**10/7/2014**	**12/21/1988**	**3/16/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	1.0 U	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	--	--	--	--	--
Methylene chloride	ug/L	5.0 U	--	--	--	--	--
Styrene	ug/L	1.0 U	--	--	--	--	--
Tetrachloroethene	ug/L	2.5	--	--	--	--	--
Toluene	ug/L	1.0 U	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--
Trichloroethene	ug/L	1.0 U	5	9.1	2.6	3	3
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	--	--	--	--	--
Vinyl chloride	ug/L	1.0 U	--	--	--	--	--
Xylenes (total)	ug/L	3.0 U	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-2**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**SW-017360-100714-MR-001**	**E11603~12/21/88**	**E15516~03/16/89**	**E21128~06/15/89**	**E25729~09/22/89**	**E30996~12/21/89**
Sample Date:		**10/7/2014**	**12/21/1988**	**3/16/1989**	**6/15/1989**	**9/22/1989**	**12/21/1989**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		E35829~03/16/90	E42023~06/19/90	E48227~09/14/90	E54821~12/17/90	E59919~03/11/91	E67568~06/13/91
Sample Date:		3/16/1990	6/19/1990	9/14/1990	12/17/1990	3/11/1991	6/13/1991
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	8	6	4	9	1 U	4
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E35829~03/16/90**	**E42023~06/19/90**	**E48227~09/14/90**	**E54821~12/17/90**	**E59919~03/11/91**	**E67568~06/13/91**
Sample Date:		**3/16/1990**	**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2	2	2	5	5	4
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E35829~03/16/90**	**E42023~06/19/90**	**E48227~09/14/90**	**E54821~12/17/90**	**E59919~03/11/91**	**E67568~06/13/91**
Sample Date:		**3/16/1990**	**6/19/1990**	**9/14/1990**	**12/17/1990**	**3/11/1991**	**6/13/1991**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E72975~09/12/91**	**E07650~12/13/91**	**E15392~03/13/92**	**E23264~06/12/92**	**E31919~09/11/92**	**E40329~12/11/92**
Sample Date:		**9/12/1991**	**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/11/1992**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	6	11	6	4.6	3.3	4
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E72975~09/12/91**	**E07650~12/13/91**	**E15392~03/13/92**	**E23264~06/12/92**	**E31919~09/11/92**	**E40329~12/11/92**
Sample Date:		**9/12/1991**	**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/11/1992**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	4	3	3	3.2	3	3
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E72975~09/12/91**	**E07650~12/13/91**	**E15392~03/13/92**	**E23264~06/12/92**	**E31919~09/11/92**	**E40329~12/11/92**
Sample Date:		**9/12/1991**	**12/13/1991**	**3/13/1992**	**6/12/1992**	**9/11/1992**	**12/11/1992**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E47633~03/11/93**	**E56580~06/15/93**	**E66048~09/15/93**	**E75747~12/17/93**	**E81245~03/16/94**	**E89397~06/14/94**
Sample Date:		**3/11/1993**	**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	1.3	12	4.1	5.2	4.4	2.3
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E47633~03/11/93**	**E56580~06/15/93**	**E66048~09/15/93**	**E75747~12/17/93**	**E81245~03/16/94**	**E89397~06/14/94**
Sample Date:		**3/11/1993**	**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1.8	2.9	3.7	3	3.3	1.7
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E47633~03/11/93**	**E56580~06/15/93**	**E66048~09/15/93**	**E75747~12/17/93**	**E81245~03/16/94**	**E89397~06/14/94**
Sample Date:		**3/11/1993**	**6/15/1993**	**9/15/1993**	**12/17/1993**	**3/16/1994**	**6/14/1994**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E97447~09/14/94**	**E106401~12/16/94**	**E112946~03/17/95**	**E120799~06/20/95**	**E127386~09/14/95**	**E134969~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	2.8	2.1	6.3	4.4	2.4	4.2
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E97447~09/14/94**	**E106401~12/16/94**	**E112946~03/17/95**	**E120799~06/20/95**	**E127386~09/14/95**	**E134969~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	1.5	2	3.3	2.9	1.8	2.8
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E97447~09/14/94**	**E106401~12/16/94**	**E112946~03/17/95**	**E120799~06/20/95**	**E127386~09/14/95**	**E134969~12/18/95**
Sample Date:		**9/14/1994**	**12/16/1994**	**3/17/1995**	**6/20/1995**	**9/14/1995**	**12/18/1995**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E139850~03/19/96**	**E146852~06/13/96**	**E154133~09/13/96**	**E161529~12/12/96**	**E166223~03/13/97**	**E172389~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	4.8	8.3	5.5	4.3	7.5	5.7
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E139850~03/19/96**	**E146852~06/13/96**	**E154133~09/13/96**	**E161529~12/12/96**	**E166223~03/13/97**	**E172389~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2.8	3.9	3.5	4.2	4.1	2.1
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E139850~03/19/96**	**E146852~06/13/96**	**E154133~09/13/96**	**E161529~12/12/96**	**E166223~03/13/97**	**E172389~06/19/97**
Sample Date:		**3/19/1996**	**6/13/1996**	**9/13/1996**	**12/12/1996**	**3/13/1997**	**6/19/1997**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E177750~09/11/97**	**E184912~12/16/97**	**E190825~03/13/98**	**82953-3409~06/16/98**	**84367-8375~09/17/98**	**85755-2530~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/13/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	4.9	4.3	6	2	2	2
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E177750~09/11/97**	**E184912~12/16/97**	**E190825~03/13/98**	**82953-3409~06/16/98**	**84367-8375~09/17/98**	**85755-2530~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/13/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	3	2.8	2.4	1	1	2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**E177750~09/11/97**	**E184912~12/16/97**	**E190825~03/13/98**	**82953-3409~06/16/98**	**84367-8375~09/17/98**	**85755-2530~12/16/98**
Sample Date:		**9/11/1997**	**12/16/1997**	**3/13/1998**	**6/16/1998**	**9/17/1998**	**12/16/1998**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**90995-6107~03/10/99**	**3990294023~06/15/99**	**3991971019~09/20/99**	**3993622021~12/16/99**	**3001152018~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	3	3.3	2.6	1.6	1.8
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**90995-6107~03/10/99**	**3990294023~06/15/99**	**3991971019~09/20/99**	**3993622021~12/16/99**	**3001152018~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	3	2.1	1.8	1.1	1.2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**90995-6107~03/10/99**	**3990294023~06/15/99**	**3991971019~09/20/99**	**3993622021~12/16/99**	**3001152018~03/16/00**
Sample Date:		**3/10/1999**	**6/15/1999**	**9/20/1999**	**12/16/1999**	**3/16/2000**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		3002633019~06/13/00	E261229~09/22/00	E268223~12/20/00	E274388~03/21/01	E281025~06/14/01	E287747~09/13/01
Sample Date:		6/13/2000	9/22/2000	12/20/2000	3/21/2001	6/14/2001	9/13/2001
Sample Type:							
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	5	7.8	11	9.7	9.5	5.2
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**3002633019~06/13/00**	**E261229~09/22/00**	**E268223~12/20/00**	**E274388~03/21/01**	**E281025~06/14/01**	**E287747~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/14/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
VOCs (continued)							
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	2.4	2.6	4	2.9	3.9	4.2
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Gas							
Ethane	ug/L	--	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--	--
Methane	ug/L	--	--	--	--	--	--
Metals							
Calcium	ug/L	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**3002633019~06/13/00**	**E261229~09/22/00**	**E268223~12/20/00**	**E274388~03/21/01**	**E281025~06/14/01**	**E287747~09/13/01**
Sample Date:		**6/13/2000**	**9/22/2000**	**12/20/2000**	**3/21/2001**	**6/14/2001**	**9/13/2001**
Sample Type:							
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units						
General Chemistry							
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--	--
pH	s.u.	--	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-4**	**C-3**	**C-3**
Sample Identification:		**GW--032802-TJ-016**	**GW-062702-JB-029**	**GW-062702-JB-035**	**GW-092602-JB-058**	**GW-17360-120902-JB-085**
Sample Date:		**3/28/2002**	**6/27/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	9.8	6.2	1.0 U	6.5	6.6
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-4**	**C-3**	**C-3**
Sample Identification:		**GW--032802-TJ-016**	**GW-062702-JB-029**	**GW-062702-JB-035**	**GW-092602-JB-058**	**GW-17360-120902-JB-085**
Sample Date:		**3/28/2002**	**6/27/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
VOCs (continued)						
Methyl cyclohexane	ug/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--
Trichloroethene	ug/L	3.8	2.3	1.2	2.8	2.4
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--
Gas						
Ethane	ug/L	--	--	--	--	--
Ethene	ug/L	--	--	--	--	--
Methane	ug/L	--	--	--	--	--
Metals						
Calcium	ug/L	--	--	--	--	--
Copper	ug/L	--	--	--	--	--
Magnesium	ug/L	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-4**	**C-3**	**C-3**
Sample Identification:		**GW--032802-TJ-016**	**GW-062702-JB-029**	**GW-062702-JB-035**	**GW-092602-JB-058**	**GW-17360-120902-JB-085**
Sample Date:		**3/28/2002**	**6/27/2002**	**6/27/2002**	**9/26/2002**	**12/9/2002**
Sample Type:						
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units					
General Chemistry						
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--	--
Chloride	ug/L	--	--	--	--	--
Hardness	ug/L	--	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--	--
pH	s.u.	--	--	--	--	--
Sulfate	ug/L	--	--	--	--	--
Sulfide	ug/L	--	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-032103-JB-105**	**GW-17360-071403-SP-052**	**GW-17360-100103-JB-082**	**GW-17360-121803-JB-107**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	--	1.0 U	0.43 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	25 UJ	25 UJ	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	--	50 UJ	50 UJ	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	50 U	50 U	50 U
Acetone	ug/L	--	25 UJ	25 UJ	1.3 J
Benzene	ug/L	--	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	--	1.0 U	1.0 U	0.44 J
Bromoform	ug/L	--	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	--	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	--	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	--	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	--	1.0 U	1.0 U	0.60 J
Chloromethane (Methyl chloride)	ug/L	--	1.0 UJ	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	7.9	7.4	5.3	1.0 U
cis-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	--	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	--	1.0 U	1.0 U	0.34 J
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	--	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	--	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	--	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-032103-JB-105**	**GW-17360-071403-SP-052**	**GW-17360-100103-JB-082**	**GW-17360-121803-JB-107**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	--	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	--	5.0 U	5.0 U	0.27 J
Methylene chloride	ug/L	--	5.0 U	5.0 U	5.0 U
Styrene	ug/L	--	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	--	2.3	1.9	0.60 J
Toluene	ug/L	--	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	2.5	1.6	1.5	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	--	1.1	0.79 J	1.0 U
Xylenes (total)	ug/L	--	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	0.50 U	--	--
Ethene	ug/L	--	0.50 U	--	--
Methane	ug/L	--	0.50 U	--	--
Metals					
Calcium	ug/L	--	87700	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	17500	--	--
Manganese	ug/L	--	78 U	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-032103-JB-105**	**GW-17360-071403-SP-052**	**GW-17360-100103-JB-082**	**GW-17360-121803-JB-107**
Sample Date:		**3/21/2003**	**7/14/2003**	**10/1/2003**	**12/18/2003**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	230000	--	--
Chloride	ug/L	--	242000	--	--
Hardness	ug/L	--	370000	--	--
Nitrate (as N)	ug/L	--	2000	--	--
Nitrite (as N)	ug/L	--	140	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	54900	--	--
Sulfide	ug/L	--	270 J	--	--
Total organic carbon (TOC)	ug/L	--	4000	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-031504-BW-128**	**GW-17360-081104-DCR-229**	**GW-17360-100604-DCR-280**	**GW-17360-120204-DCR-320**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	0.51 J	0.38 J	0.62 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	0.80 J	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	0.20 J	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.29 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	5.4	4.2	6.3
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-031504-BW-128**	**GW-17360-081104-DCR-229**	**GW-17360-100604-DCR-280**	**GW-17360-120204-DCR-320**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	4.6	2.3	3.0
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.7	1.3	1.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	0.94 J	1.0	0.58 J
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-031504-BW-128**	**GW-17360-081104-DCR-229**	**GW-17360-100604-DCR-280**	**GW-17360-120204-DCR-320**
Sample Date:		**3/15/2004**	**8/11/2004**	**10/6/2004**	**12/2/2004**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-040505-DCR-344**	**GW-17360-062905-DCR-391**	**GW-17360-120605-DCR-578**	**GW-17360-091206-DR-040**
Sample Date:		**4/5/2005**	**6/29/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	0.53 J	0.52 J	0.48 J	0.58 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 UJ	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 UJ	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 UJ	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	9.4	7.4	4.4 J	4.6 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-040505-DCR-344**	**GW-17360-062905-DCR-391**	**GW-17360-120605-DCR-578**	**GW-17360-091206-DR-040**
Sample Date:		**4/5/2005**	**6/29/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	7.2 J	3.4	2.7	2.6 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	0.23 J	0.17 J	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	2.4	2.0	1.8	1.6
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.99 J	0.94 J	0.55 J	1.0
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-040505-DCR-344**	**GW-17360-062905-DCR-391**	**GW-17360-120605-DCR-578**	**GW-17360-091206-DR-040**
Sample Date:		**4/5/2005**	**6/29/2005**	**12/6/2005**	**9/12/2006**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Wyoming, Michigan

Sample Location:		C-3	C-3	C-3	C-3
Sample Identification:		GW-17360-050807-JY-054	GW-17360-050807-JY-055	GW-17360-101507-DR-097	GW-17360-042108-DR-140
Sample Date:		5/8/2007	5/8/2007	10/15/2007	4/21/2008
Sample Type:			Duplicate		
AOI		AOI 25	AOI 25	AOI 25	AOI 25
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	0.40 J	0.39 J	0.35 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	0.59 J
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 UJ	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 UJ	50 U
Acetone	ug/L	25 UJ	25 UJ	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromoform	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	7.0	7.6	3.5	3.0
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-050807-JY-054**	**GW-17360-050807-JY-055**	**GW-17360-101507-DR-097**	**GW-17360-042108-DR-140**
Sample Date:		**5/8/2007**	**5/8/2007**	**10/15/2007**	**4/21/2008**
Sample Type:			**Duplicate**		
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	8.6	8.4	3.7	4.5 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	2.5	2.6	1.6	1.1
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Vinyl chloride	ug/L	0.92 J	0.97 J	0.57 J	0.46 J
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-050807-JY-054**	**GW-17360-050807-JY-055**	**GW-17360-101507-DR-097**	**GW-17360-042108-DR-140**
Sample Date:		**5/8/2007**	**5/8/2007**	**10/15/2007**	**4/21/2008**
Sample Type:			**Duplicate**		
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-100608-DR-192**	**WS-17360-040609-DR-237**	**GW-17360-100609-DR-279**	**SW-17360-101110-BW-048**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/11/2010**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	0.30 J	0.26 J	0.23 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 UJ	0.34 J
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Carbon disulfide	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloroform (Trichloromethane)	ug/L	1.0 UJ	1.0 U	1.0 U	0.50 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	4.3	3.4	2.6	1.1
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
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Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-100608-DR-192**	**WS-17360-040609-DR-237**	**GW-17360-100609-DR-279**	**SW-17360-101110-BW-048**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/11/2010**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	0.44 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	7.2 J	6.1	4.6	0.75 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
Trichloroethene	ug/L	2.0	1.3	1.3	0.74 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U
Vinyl chloride	ug/L	0.53 J	0.57 J	0.62 J	0.31 J
Xylenes (total)	ug/L	2.0 UJ	2.0 U	2.0 U	2.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-100608-DR-192**	**WS-17360-040609-DR-237**	**GW-17360-100609-DR-279**	**SW-17360-101110-BW-048**
Sample Date:		**10/6/2008**	**4/6/2009**	**10/6/2009**	**10/11/2010**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-021011-DR-015**	**GW-17360-092911-EM-049**	**SW-17360-103012-JV-050**	**SW-17360-110812-EB-009**
Sample Date:		**2/10/2011**	**9/29/2011**	**10/30/2012**	**11/8/2012**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 UJ	1.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	0.95 J	5.0 U	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	10 U	5.0 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	--
Acetone	ug/L	25 U	11	5.0 U	--
Benzene	ug/L	1.0 U	1.0 U	1.0 U	--
Bromodichloromethane	ug/L	1.3	1.0 U	1.0 U	--
Bromoform	ug/L	0.79 J	1.0 UJ	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	--
Carbon disulfide	ug/L	5.0 U	5.0 UJ	5.0 U	--
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	--
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	--
Chloroform (Trichloromethane)	ug/L	1.0	1.0 U	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	--
cis-1,2-Dichloroethene	ug/L	1.4	1.0 U	1.0 U	--
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	--
Dibromochloromethane	ug/L	1.2	1.0 UJ	1.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	--
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	--
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	--
Methyl acetate	ug/L	10 U	10 U	5.0 U	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-021011-DR-015**	**GW-17360-092911-EM-049**	**SW-17360-103012-JV-050**	**SW-17360-110812-EB-009**
Sample Date:		**2/10/2011**	**9/29/2011**	**10/30/2012**	**11/8/2012**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	--
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	--
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	--
Styrene	ug/L	1.0 U	1.0 U	1.0 U	--
Tetrachloroethene	ug/L	1.8	1.0 U	1.0 U	--
Toluene	ug/L	1.0 U	1.0 U	1.0 U	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 U	--
Trichloroethene	ug/L	0.57 J	1.0 U	1.0 U	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	--
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	--
Vinyl chloride	ug/L	0.52 J	1.0 U	1.0 U	--
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 U	--
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**GW-17360-021011-DR-015**	**GW-17360-092911-EM-049**	**SW-17360-103012-JV-050**	**SW-17360-110812-EB-009**
Sample Date:		**2/10/2011**	**9/29/2011**	**10/30/2012**	**11/8/2012**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	344000
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	7.7 J
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**WS-17360-050113-MR-009**	**SW-17360-102813-EB-001**	**SW-017360-041414-MR-002**	**SW-017360-100714-MR-002**
Sample Date:		**5/1/2013**	**10/28/2013**	**4/14/2014**	**10/7/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	ug/L	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.2	1.0 U	1.5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**WS-17360-050113-MR-009**	**SW-17360-102813-EB-001**	**SW-017360-041414-MR-002**	**SW-017360-100714-MR-002**
Sample Date:		**5/1/2013**	**10/28/2013**	**4/14/2014**	**10/7/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
VOCs (continued)					
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	2.9	0.75 J	4.4
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Gas					
Ethane	ug/L	--	--	--	--
Ethene	ug/L	--	--	--	--
Methane	ug/L	--	--	--	--
Metals					
Calcium	ug/L	--	--	--	--
Copper	ug/L	--	--	--	--
Magnesium	ug/L	--	--	--	--
Manganese	ug/L	--	--	--	--

Surface Water Sample Anayltical Results - Cole Drain Culverts
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		**C-3**	**C-3**	**C-3**	**C-3**
Sample Identification:		**WS-17360-050113-MR-009**	**SW-17360-102813-EB-001**	**SW-017360-041414-MR-002**	**SW-017360-100714-MR-002**
Sample Date:		**5/1/2013**	**10/28/2013**	**4/14/2014**	**10/7/2014**
Sample Type:					
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
	Units				
General Chemistry					
Alkalinity, total (as CaCO3)	ug/L	--	--	--	--
Chloride	ug/L	--	--	--	--
Hardness	ug/L	--	--	--	--
Nitrate (as N)	ug/L	--	--	--	--
Nitrite (as N)	ug/L	--	--	--	--
pH	s.u.	--	--	--	--
Sulfate	ug/L	--	--	--	--
Sulfide	ug/L	--	--	--	--
Total organic carbon (TOC)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:					MDEQ Generic Groundwater Cleanup Criteria:[1]			
Sample Identification:		Residential	Non-Residential	Groundwater	Residential Groundwater	Non-Residential Groundwater	Water	Flammability and
Sample Date:		Drinking Water	Drinking Water	Surface Water	Volatilization to	Volatilization to	Solubility	Explosivity
Sample Type:				Interface	Indoor Air Inhalation	Indoor Air Inhalation		Screening Levels
Segment_Depth		a	b	c	d	e	f	g
AOI								
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	200	200	89	660000	1300000	1330000	ID
1,1,2,2-Tetrachloroethane	ug/L	8.5	35	78	12000	77000	2970000	ID
1,1,2-Trichloroethane	ug/L	5	5	330	17000	110000	4420000	NA
1,1-Dichloroethane	ug/L	880	2500	740	1000000	2300000	5060000	380000
1,1-Dichloroethene	ug/L	7	7	130	200	1300	2250000	97000
1,2,4-Trichlorobenzene	ug/L	70	70	99	300000	300000	300000	NA
1,2,4-Trimethylbenzene	ug/L	63	63	17	56000	56000	55890	56000
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	0.2	NA	220	1200	1230	NA
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05	0.05	5.7	2400	15000	4200000	ID
1,2-Dichlorobenzene	ug/L	600	600	13	160000	160000	156000	NA
1,2-Dichloroethane	ug/L	5	5	360	9600	59000	8520000	2500000
1,2-Dichloropropane	ug/L	5	5	230	16000	36000	2800000	550000
1,3,5-Trimethylbenzene	ug/L	72	72	45	61000	61000	61150	ID
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	111000	ID
1,4-Dichlorobenzene	ug/L	75	75	17	16000	74000	73800	NA
1,4-Dioxane	ug/L	7.2	350	2800	NLV	NLV	900000000	140000000
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000	38000	2200	240000000	240000000	240000000	ID
2-Hexanone	ug/L	1000	2900	ID	4200000	8700000	16000000	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1800	5200	ID	20000000	20000000	20000000	ID
Acetone	ug/L	730	2100	1700	1000000000	1000000000	1000000000	15000000
Benzene	ug/L	5	5	200	5600	35000	1750000	68000
Bromodichloromethane	ug/L	80	80	ID	4800	37000	6740000	ID
Bromoform	ug/L	80	80	ID	470000	3100000	3100000	ID
Bromomethane (Methyl bromide)	ug/L	10	29	35	4000	9000	14500000	ID
Carbon disulfide	ug/L	800	2300	ID	250000	550000	1190000	13000
Carbon tetrachloride	ug/L	5	5	45	370	2400	793000	ID
Chlorobenzene	ug/L	100	100	25	210000	470000	472000	160000
Chloroethane	ug/L	430	1700	1100	5700000	5700000	5740000	110000
Chloroform (Trichloromethane)	ug/L	80	80	350	28000	180000	7920000	ID
Chloromethane (Methyl chloride)	ug/L	260	1100	ID	8600	45000	6340000	36000
cis-1,2-Dichloroethene	ug/L	70	70	620	93000	210000	3500000	530000
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	80	80	ID	14000	110000	2600000	ID
Dichlorodifluoromethane (CFC-12)	ug/L	1700	4800	ID	220000	300000	300000	ID
Ethylbenzene	ug/L	74	74	18	110000	170000	169000	43000
Isopropyl benzene	ug/L	800	2300	28	56000	56000	56000	29000
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/L	40	40	7100	47000000	47000000	46800000	ID
Methylene chloride	ug/L	5	5	1500	220000	1400000	17000000	ID
Styrene	ug/L	100	100	80	170000	310000	310000	140000
Tetrachloroethene	ug/L	5	5	60	25000	170000	200000	ID
Toluene	ug/L	790	790	270	530000	530000	526000	61000
trans-1,2-Dichloroethene	ug/L	100	100	1500	85000	200000	6300000	230000
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/L	5	5	200	2200	4900	1100000	ID
Trichlorofluoromethane (CFC-11)	ug/L	2600	7300		1100000	1100000	1100000	ID
Trifluorotrichloroethane (CFC-113)	ug/L	170000	170000	32	170000	170000	170000	ID
Vinyl chloride	ug/L	2	2	13	1100	13000	2760000	33000
Xylenes (total)	ug/L	280	280	41	190000	190000	186000	70000
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/L	730	2100	NA	NLV	NLV	1200000	ID
2,4,6-Trichlorophenol	ug/L	120	470	5	NLV	NLV	800000	ID
2,4-Dichlorophenol	ug/L	73	210	11	NLV	NLV	4500000	ID
2,4-Dimethylphenol	ug/L	370	1000	380	NLV	NLV	7870000	ID
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/L	7.7	32		NLV	NLV	270000	ID

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria:[1]						
Sample Identification:		Residential	Non-Residential	Groundwater	Residential Groundwater	Non-Residential Groundwater	Water	Flammability and
Sample Date:		Drinking Water	Drinking Water	Surface Water	Volatilization to	Volatilization to	Solubility	Explosivity
Sample Type:				Interface	Indoor Air Inhalation	Indoor Air Inhalation		Screening Levels
Segment_Depth		**a**	**b**	**c**	**d**	**e**	**f**	**g**
AOI								
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/L	1800	5200		ID	ID	6740	ID
2-Chlorophenol	ug/L	45	130	18	ID	ID	22000000	ID
2-Methylnaphthalene	ug/L	260	750	19	25000	25000	24600	ID
2-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
2-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/L	20	58	ID	NLV	NLV	2500000	ID
3&4-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
3,3'-Dichlorobenzidine	ug/L	1.1	4.3	0.3	NLV	NLV	3110	ID
3-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/L	20	20		NLV	NLV	200000	ID
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	150	420	7.4	NLV	NLV	3900000	ID
4-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
4-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/L	1300	3800	38	4200	4200	4240	ID
Acenaphthylene	ug/L	52	150	ID	3900	3900	3930	ID
Acetophenone	ug/L	1500	4400		6100000	6100000	6100000	ID
Anthracene	ug/L	43	43	ID	43	43	43.4	ID
Atrazine	ug/L	3	3	7.3	NLV	NLV	70000	ID
Benzaldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/L	2.1	8.5	ID	NLV	NLV	9.4	ID
Benzo(a)pyrene	ug/L	5	5	ID	NLV	NLV	1.62	ID
Benzo(b)fluoranthene	ug/L	1.5	1.5	ID	ID	ID	1.5	ID
Benzo(g,h,i)perylene	ug/L	1	1		NLV	NLV	0.26	ID
Benzo(k)fluoranthene	ug/L	1	1		NLV	NLV	0.8	ID
Biphenyl (1,1-Biphenyl)	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/L	2	8.3	1	38000	210000	17200000	17000000
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	6	6	25	NLV	NLV	340	NA
Butyl benzylphthalate (BBP)	ug/L	1200	2700	67	NLV	NLV	2690	ID
Caprolactam	ug/L	5800	17000	NA	NLV	NLV	5250000000	NA
Carbazole	ug/L	85	350	10	NLV	NLV	7480	ID
Chrysene	ug/L	1.6	1.6	ID	ID	ID	1.6	ID
Dibenz(a,h)anthracene	ug/L	2	2	ID	NLV	NLV	2.49	ID
Dibenzofuran	ug/L	ID	ID	4	10000	10000	10000	ID
Diethyl phthalate	ug/L	5500	16000	110	NLV	NLV	1080000	NA
Dimethyl phthalate	ug/L	73000	210000	NA	NLV	NLV	4190000	NA
Di-n-butylphthalate (DBP)	ug/L	880	2500	9.7	NLV	NLV	11200	NA
Di-n-octyl phthalate (DnOP)	ug/L	130	380	ID	NLV	NLV	3000	ID
Fluoranthene	ug/L	210	210	1.6	210	210	206	ID
Fluorene	ug/L	880	2000	12	2000	2000	1980	ID
Hexachlorobenzene	ug/L	1	1	0.2	440	3000	6200	ID
Hexachlorobutadiene	ug/L	15	42	0.053	1600	3200	3230	ID
Hexachlorocyclopentadiene	ug/L	50	50	ID	130	420	1800	ID
Hexachloroethane	ug/L	7.3	21	6.7	27000	50000	50000	ID
Indeno(1,2,3-cd)pyrene	ug/L	2	2	ID	NLV	NLV	0.022	ID
Isophorone	ug/L	770	3100	1300	NLV	NLV	12000000	NA
Naphthalene	ug/L	520	1500	11	31000	31000	31000	NA
Nitrobenzene	ug/L	3.4	9.6	180	280000	550000	2090000	NA
N-Nitrosodi-n-propylamine	ug/L	5	5	NA	NLV	NLV	9890000	ID
N-Nitrosodiphenylamine	ug/L	270	1100	NA	NLV	NLV	35100	ID
Pentachlorophenol	ug/L	1	1	2.8	NLV	NLV	1850000	ID
Perfluorhexanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria:[1]						
Sample Identification: / Sample Date: / Sample Type: / Segment_Depth / AOI		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
Parameters	**Units**	**a**	**b**	**c**	**d**	**e**	**f**	**g**
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane sulfonamide	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perflurorohexane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ug/L	52	150	2	1000	1000	1000	ID
Phenol	ug/L	4400	13000	450	NLV	NLV	82800000	NA
Pyrene	ug/L	140	140	ID	140	140	135	ID
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	NA	NA	NA	NA	NA	NA	NA
Metals								
Antimony	ug/L	6	6	130	NLV	NLV	NA	ID
Antimony (dissolved)	ug/L	6	6	130	NLV	NLV	NA	ID
Arsenic	ug/L	10	10	10	NLV	NLV	NA	ID
Arsenic (dissolved)	ug/L	10	10	10	NLV	NLV	NA	ID
Barium	ug/L	2000	2000	1600	NLV	NLV	NA	ID
Barium (dissolved)	ug/L	2000	2000	1600	NLV	NLV	NA	ID
Beryllium	ug/L	4	4	54	NLV	NLV	NA	ID
Beryllium (dissolved)	ug/L	4	4	54	NLV	NLV	NA	ID
Cadmium	ug/L	5	5	5.6	NLV	NLV	NA	ID
Cadmium (dissolved)	ug/L	5	5	5.6	NLV	NLV	NA	ID
Chromium	ug/L	100	100	11	NLV	NLV	NA	ID
Chromium (dissolved)	ug/L	100	100	11	NLV	NLV	NA	ID
Chromium III (trivalent)	ug/L	100	100	200	NLV	NLV	NA	ID
Chromium VI (hexavalent)	ug/L	100	100	11	NLV	NLV	NA	ID
Chromium VI (hexavalent) (dissolved)	ug/L	100	100	11	NLV	NLV	NA	ID
Cobalt	ug/L	40	100	100	NLV	NLV	NA	ID
Cobalt (dissolved)	ug/L	40	100	100	NLV	NLV	NA	ID
Copper	ug/L	1000	1000	26	NLV	NLV	NA	ID
Copper (dissolved)	ug/L	1000	1000	26	NLV	NLV	NA	ID
Iron	ug/L	300	300	NA	NLV	NLV	NA	ID
Lead	ug/L	4	4	54	NLV	NLV	NA	ID
Lead (dissolved)	ug/L	4	4	54	NLV	NLV	NA	ID
Manganese	ug/L	50	50	5800	NLV	NLV	NA	ID
Manganese (dissolved)	ug/L	50	50	5800	NLV	NLV	NA	ID
Mercury	ug/L	2	2	0.0013	56	56	56	ID
Mercury (dissolved)	ug/L	2	2	0.0013	56	56	56	ID
Molybdenum	ug/L	73	210	3200	NLV	NLV	NA	ID
Nickel	ug/L	100	100	150	NLV	NLV	NA	ID
Nickel (dissolved)	ug/L	100	100	150	NLV	NLV	NA	ID
Selenium	ug/L	50	50	5	NLV	NLV	NA	ID
Selenium (dissolved)	ug/L	50	50	5	NLV	NLV	NA	ID
Silver	ug/L	34	98	0.2	NLV	NLV	NA	ID
Silver (dissolved)	ug/L	34	98	0.2	NLV	NLV	NA	ID
Sodium	ug/L	250000	350000	NA	NLV	NLV	NA	ID
Thallium	ug/L	2	2	3.7	NLV	NLV	NA	ID
Thallium (dissolved)	ug/L	2	2	3.7	NLV	NLV	NA	ID
Vanadium	ug/L	4.5	62	27	NLV	NLV	NA	ID
Vanadium (dissolved)	ug/L	4.5	62	27	NLV	NLV	NA	ID
Zinc	ug/L	2400	5000	340	NLV	NLV	NA	ID
Zinc (dissolved)	ug/L	2400	5000	340	NLV	NLV	NA	ID

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria:[1]						
Sample Identification: **Sample Date:** **Sample Type:** **Segment_Depth** **AOI**		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
Parameters	**Units**	**a**	**b**	**c**	**d**	**e**	**f**	**g**
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1221 (PCB-1221)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1232 (PCB-1232)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1242 (PCB-1242)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1248 (PCB-1248)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1254 (PCB-1254)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Aroclor-1260 (PCB-1260)	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Total PCBs	ug/L	0.5	0.5	0.2	45	45	44.7	ID
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (C10-C20)	ug/L	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (C20-C34)	ug/L	NA	NA	NA	NA	NA	NA	NA

Notes:

[1] Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-1	85-1	85-1	85-1	85-1	85-1	85-2	85-2
Sample Identification:		GW-17360-020911-DR-002	GW-17360-092311-EM-037	GW-17360-102512-EB-017	WG-17360-050713-EB-058	WG-17360-110113-EB-037	WG-017360-041814-MR-041	GW-17360-031011-DR-209	GW-17360-092311-EM-028
Sample Date:		2/9/2011	9/23/2011	10/25/2012	5/7/2013	11/1/2013	4/18/2014	3/10/2011	9/23/2011
Sample Type:									
Segment_Depth		(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	8.4	5.5
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.3
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 J	0.28 J
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 UJ	5.0 U	25 U	25 U	25 U	25 U	10 UJ
2-Hexanone	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	10 U
Acetone	ug/L	25 U	10 UJ	5.0 U	50 U	50 U	50 U	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.46 J	1.6	2.3	1.0 U	2.2	0.77 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6	1.0
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.26 J	0.88 J	**2.1**[ab]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 UJ	1.5 J	3.0 U	3.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-1	85-1	85-1	85-1	85-1	85-1	85-2	85-2
Sample Identification:		GW-17360-020911-DR-002	GW-17360-092311-EM-037	GW-17360-102512-EB-017	WG-17360-050713-EB-058	WG-17360-110113-EB-037	WG-017360-041814-MR-041	GW-17360-031011-DR-209	GW-17360-092311-EM-028
Sample Date:		2/9/2011	9/23/2011	10/25/2012	5/7/2013	11/1/2013	4/18/2014	3/10/2011	9/23/2011
Sample Type:									
Segment_Depth		(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Acenaphthylene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Benzo(a)pyrene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Dibenz(a,h)anthracene	ug/L	2.0 U	--	--	--	--	--	2.0 U	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	--	--	--	--	1.0 U	--
Fluorene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	--	--	--	--	2.0 U	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-1	85-1	85-1	85-1	85-1	85-1	85-2	85-2
Sample Identification:		GW-17360-020911-DR-002	GW-17360-092311-EM-037	GW-17360-102512-EB-017	WG-17360-050713-EB-058	WG-17360-110113-EB-037	WG-017360-041814-MR-041	GW-17360-031011-DR-209	GW-17360-092311-EM-028
Sample Date:		2/9/2011	9/23/2011	10/25/2012	5/7/2013	11/1/2013	4/18/2014	3/10/2011	9/23/2011
Sample Type:									
Segment_Depth		(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	--	--	--	--	--	2.0 U	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	--	--	--	--	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.0 U	2.0 U	0.67 J	--	--	0.052 J	2.0 U	0.25 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	6.3	8.2	6.3	--	--	4.1 J	5.0 U	0.69 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	57.2 J	70 J	86	--	--	72	117	120
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	1.0 U	--	--	2 U	1.0 U	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	1.0 U	1.0 U	0.074 J	--	--	0.47 J	1.0 U	0.15 J
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	5.0 U	10 U	0.31 J	--	--	5 U	5.0 U	1.5 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	1.0 J	1.1 J	0.90 J	--	--	1.4 J	0.95 J	0.48 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.0 U	4.0 U	0.50 J	--	--	2.2 J	2.0 U	13
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	**3500[ab]**	--	--	--	--	--
Lead	ug/L	0.20 J	0.31 J	0.19 J	--	--	2 J	0.28 J	2.5 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	**326[ab]**	**520[ab]**	**670[ab]**	--	--	**640[ab]**	**76.4[ab]**	41 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	40 U	0.20 U	--	--	0.2 U	0.20 U	40 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	0.44 J	--	--	0.21 J	--	--
Nickel	ug/L	0.90 J	1.5 J	1.3	--	--	5.2	2.0 J	1.9 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	5.0 U	1.0 U	--	--	5 U	1.2 J	0.98 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	0.20 U	--	--	5 U	0.20 U	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	2.0 U	1.0 U	--	--	5 U	1.0 U	2.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	4.0 U	0.21 J	--	--	0.19 J	4.0 U	4.0
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	24.3 U	150	48	--	--	**530[c]**	35.1 U	69
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-1	85-1	85-1	85-1	85-1	85-1	85-2	85-2
Sample Identification:		GW-17360-020911-DR-002	GW-17360-092311-EM-037	GW-17360-102512-EB-017	WG-17360-050713-EB-058	WG-17360-110113-EB-037	WG-017360-041814-MR-041	GW-17360-031011-DR-209	GW-17360-092311-EM-028
Sample Date:		2/9/2011	9/23/2011	10/25/2012	5/7/2013	11/1/2013	4/18/2014	3/10/2011	9/23/2011
Sample Type:									
Segment_Depth		(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(15.5-20.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-2	85-2	85-2	85-2	85-5B	85-5B	85-6
Sample Identification:		GW-17360-102512-EB-019	WG-17360-050613-EB-040	WG-17360-110113-EB-034	WG-017360-041814-MR-042	GW-17360-021411-JY-038	GW-17360-092911-EM-044	GW-17360-021111-DR-030
Sample Date:		10/25/2012	5/6/2013	11/1/2013	4/18/2014	2/14/2011	9/29/2011	2/11/2011
Sample Type:								
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(21.9-31.9) ft BGS	(21.9-31.9) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	6.4	3.8	4.7	1.9	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.4	2.0	0.92 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	10 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	10 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	10 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	25 U	10 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.42 J	5.0 UJ	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 J	0.76 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	0.22 J	0.42 J	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	0.26 J	0.30 J	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.1	0.96 J	3.9
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Trichloroethene	ug/L	1.1	1.0 U	1.0 U	1.0 U	0.45 J	0.43 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	9.6 U	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	9.6 U	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	7.7 U	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	19 U	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	9.6 U	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	38 U	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	9.6 U	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-2	85-2	85-2	85-2	85-5B	85-5B	85-6
Sample Identification:		GW-17360-102512-EB-019	WG-17360-050613-EB-040	WG-17360-110113-EB-034	WG-017360-041814-MR-042	GW-17360-021411-JY-038	GW-17360-092911-EM-044	GW-17360-021111-DR-030
Sample Date:		10/25/2012	5/6/2013	11/1/2013	4/18/2014	2/14/2011	9/29/2011	2/11/2011
Sample Type:								
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(21.9-31.9) ft BGS	(21.9-31.9) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	9.6 U	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	9.6 U	--
2-Chlorophenol	ug/L	--	--	--	--	--	9.6 U	--
2-Methylnaphthalene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
2-Methylphenol	ug/L	--	--	--	--	--	9.6 U	--
2-Nitroaniline	ug/L	--	--	--	--	--	38 U	--
2-Nitrophenol	ug/L	--	--	--	--	--	9.6 U	--
3&4-Methylphenol	ug/L	--	--	--	--	--	9.6 U	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	1.9 U	--
3-Nitroaniline	ug/L	--	--	--	--	--	38 U	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	38 U	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	9.6 U	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	9.6 U	--
4-Chloroaniline	ug/L	--	--	--	--	--	19 U	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	9.6 U	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	38 U	--
4-Nitrophenol	ug/L	--	--	--	--	--	38 U	--
Acenaphthene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
Acenaphthylene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
Acetophenone	ug/L	--	--	--	--	--	9.6 U	--
Anthracene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
Atrazine	ug/L	--	--	--	--	--	5.8 U	--
Benzaldehyde	ug/L	--	--	--	--	--	9.6 U	--
Benzo(a)anthracene	ug/L	--	--	--	--	1.0 U	1.9 U	R
Benzo(a)pyrene	ug/L	--	--	--	--	1.0 U	1.9 U	1.0 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	1.0 U	1.9 U	1.0 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	1.0 U	1.9 U	1.0 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	1.0 U	1.9 U	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	9.6 U	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	9.6 U	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	1.9 U	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	9.6 U	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	9.6 U	--
Caprolactam	ug/L	--	--	--	--	--	19 U	--
Carbazole	ug/L	--	--	--	--	--	19 U	--
Chrysene	ug/L	--	--	--	--	1.0 U	1.9 U	R
Dibenz(a,h)anthracene	ug/L	--	--	--	--	2.0 U	3.8 U	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	7.7 U	--
Diethyl phthalate	ug/L	--	--	--	--	--	9.6 U	--
Dimethyl phthalate	ug/L	--	--	--	--	--	9.6 U	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	9.6 U	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	9.6 U	--
Fluoranthene	ug/L	--	--	--	--	0.85 J	0.70 J	1.0 U
Fluorene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
Hexachlorobenzene	ug/L	--	--	--	--	--	0.38 U	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	1.9 U	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	9.6 U	--
Hexachloroethane	ug/L	--	--	--	--	--	9.6 U	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	2.0 U	3.8 U	R
Isophorone	ug/L	--	--	--	--	--	9.6 U	--
Naphthalene	ug/L	--	--	--	--	5.0 U	9.6 U	5.0 U
Nitrobenzene	ug/L	--	--	--	--	--	5.8 U	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	9.6 U	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	9.6 U	--
Pentachlorophenol	ug/L	--	--	--	--	--	9.6 U	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-2	85-2	85-2	85-2	85-5B	85-5B	85-6
Sample Identification:		GW-17360-102512-EB-019	WG-17360-050613-EB-040	WG-17360-110113-EB-034	WG-017360-041814-MR-042	GW-17360-021411-JY-038	GW-17360-092911-EM-044	GW-17360-021111-DR-030
Sample Date:		10/25/2012	5/6/2013	11/1/2013	4/18/2014	2/14/2011	9/29/2011	2/11/2011
Sample Type:								
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(21.9-31.9) ft BGS	(21.9-31.9) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	2.0 U	3.8 U	2.0 U
Phenol	ug/L	--	--	--	--	--	9.6 U	--
Pyrene	ug/L	--	--	--	--	0.72 J	0.79 J	R
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	0.33 J	0.24 J	0.3 J	0.34 J	2.0 U	2.0 U	2.0 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	0.31 J	0.92 J	5 U	5 U	6.6	8.9	5.0 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	110	100	84	92	94.2 J	93 J	40.6 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	2 U	2 U	2 U	1.0 U	1.0 U	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	0.055 J	0.066 J	0.36 J	2 U	1.0 U	1.0 U	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	0.27 J	0.67 J	5 U	5 U	5.0 U	10 U	0.76 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	0.83 J	0.83 J	1 J	1.4 J	0.18 J	0.25 J	7.0 U
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	4.0	1.6 J	4.5 J	4.4 J	2.0 U	0.48 J	2.0 U
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	**490[ab]**	--	--	--	--	--	--
Lead	ug/L	0.67 J	0.057 J	0.33 J	1 J	3.0 U	0.85 J	3.0 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	**95[ab]**	**82[ab]**	**52[ab]**	48	**51.9[ab]**	36 J	1.6 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	0.2 U	0.2 U	0.2 U	0.20 U	40 U	0.20 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	9.0	6.7	8.2	6.8	--	--	--
Nickel	ug/L	2.7	2.7 J	5.5	9.2	0.47 J	0.61 J	0.26 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	1.3 U	1.1 J	2.3 J	1.1 J	5.0 U	5.0 U	5.0 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	5 U	5 U	5 U	0.20 U	0.20 U	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	5 U	5 U	5 U	1.0 U	2.0 U	1.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	2.3	1.4 J	1.9 J	1.9 J	4.0 U	4.0 U	4.0 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	90	260	50	230	20.0 U	180	61.8
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-2	85-2	85-2	85-2	85-5B	85-5B	85-6
Sample Identification:		GW-17360-102512-EB-019	WG-17360-050613-EB-040	WG-17360-110113-EB-034	WG-017360-041814-MR-042	GW-17360-021411-JY-038	GW-17360-092911-EM-044	GW-17360-021111-DR-030
Sample Date:		10/25/2012	5/6/2013	11/1/2013	4/18/2014	2/14/2011	9/29/2011	2/11/2011
Sample Type:								
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(21.9-31.9) ft BGS	(21.9-31.9) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	100 U	--	100 UJ
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	600 J	--	200 U
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	540 J	--	200 U

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-6	85-6
Sample Identification:		GW-17360-092211-EM-022	GW-17360-102912-DD-036	GW-17360-050713-BW-053	WG-17360-110513-EB-062	WG-017360-041714-MR-027	WG-017360-100914-MR-022	WG-017360-040915-MR-023
Sample Date:		9/22/2011	10/29/2012	5/7/2013	11/5/2013	4/17/2014	10/9/2014	4/9/2015
Sample Type:								
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 UJ	5.0 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	10 UJ	5.0 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	0.32 J	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	4.2	**5.2[ab]**	**7.1[ab]**	**5.6[ab]**	**8.2[ab]**	**8.9[ab]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.2	1.0 U	1.5	1.2	1.7	2.3
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2,4,5-Trichlorophenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2,4,6-Trichlorophenol	ug/L	3.8 U	0.50 U	4.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2,4-Dichlorophenol	ug/L	9.6 U	0.50 U	10 U	10 U	10 U	11 U	5.0 U
2,4-Dimethylphenol	ug/L	4.8 U	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2,4-Dinitrophenol	ug/L	19 U	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2,4-Dinitrotoluene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-6	85-6
Sample Identification:		GW-17360-092211-EM-022	GW-17360-102912-DD-036	GW-17360-050713-BW-053	WG-17360-110513-EB-062	WG-017360-041714-MR-027	WG-017360-100914-MR-022	WG-017360-040915-MR-023
Sample Date:		9/22/2011	10/29/2012	5/7/2013	11/5/2013	4/17/2014	10/9/2014	4/9/2015
Sample Type:								
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2-Chloronaphthalene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2-Chlorophenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2-Methylnaphthalene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2-Methylphenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
2-Nitroaniline	ug/L	19 U	0.50 U	20 U	20 U	20 U	21 U	5.0 U
2-Nitrophenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
3&4-Methylphenol	ug/L	4.8 U	--	--	--	--	--	5.0 U
3,3'-Dichlorobenzidine	ug/L	0.96 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
3-Nitroaniline	ug/L	19 U	1.0 UJ	20 U	20 U	20 U	21 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	19 U	5.0 U	20 U	20 U	20 U	21 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
4-Chloro-3-methylphenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
4-Chloroaniline	ug/L	9.6 U	1.0 UJ	10 U	20 U	20 U	21 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
4-Methylphenol	ug/L	--	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	--
4-Nitroaniline	ug/L	19 U	1.0 U	20 U	20 U	20 U	21 U	5.0 U
4-Nitrophenol	ug/L	19 U	5.0 U	20 U	20 U	20 U	21 U	5.0 U
Acenaphthene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Acenaphthylene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Acetophenone	ug/L	4.8 U	0.50 UJ	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U
Anthracene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Atrazine	ug/L	2.9 U	0.50 U	3.0 U	1.0 U	1.0 U	1.1 U	1.0 U
Benzaldehyde	ug/L	4.8 UJ	R	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U
Benzo(a)anthracene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Benzo(a)pyrene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Benzo(b)fluoranthene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Benzo(g,h,i)perylene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Benzo(k)fluoranthene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	4.8 U	0.94	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	4.8 U	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Caprolactam	ug/L	9.6 U	1.0 U	10 U	10 U	10 U	11 U	10 U
Carbazole	ug/L	9.6 U	0.50 U	10 U	10 U	10 U	11 U	5.0 U
Chrysene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Dibenz(a,h)anthracene	ug/L	1.9 U	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Dibenzofuran	ug/L	3.8 U	0.50 U	4.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Diethyl phthalate	ug/L	4.8 U	0.66	5.0 U	20 U	20 U	21 U	5.0 U
Dimethyl phthalate	ug/L	4.8 U	0.50 U	5.0 U	20 U	20 U	21 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	4.8 U	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Fluoranthene	ug/L	0.96 U	0.56	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Fluorene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Hexachlorobenzene	ug/L	0.19 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Hexachlorobutadiene	ug/L	0.96 U	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Hexachlorocyclopentadiene	ug/L	4.8 U	0.50 U	5.0 UJ	20 U	20 U	21 U	5.0 U
Hexachloroethane	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	1.9 U	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Isophorone	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Naphthalene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	0.14 J
Nitrobenzene	ug/L	2.9 U	0.50 U	3.0 U	5.0 U	5.0 U	5.3 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
N-Nitrosodiphenylamine	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Pentachlorophenol	ug/L	4.8 U	0.50 U	1.0 U	20 U	20 U	21 U	5.0 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-6	85-6
Sample Identification:		GW-17360-092211-EM-022	GW-17360-102912-DD-036	GW-17360-050713-BW-053	WG-17360-110513-EB-062	WG-017360-041714-MR-027	WG-017360-100914-MR-022	WG-017360-040915-MR-023
Sample Date:		9/22/2011	10/29/2012	5/7/2013	11/5/2013	4/17/2014	10/9/2014	4/9/2015
Sample Type:								
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	1.9 U	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Phenol	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Pyrene	ug/L	4.8 U	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-6	85-6
Sample Identification:		GW-17360-092211-EM-022	GW-17360-102912-DD-036	GW-17360-050713-BW-053	WG-17360-110513-EB-062	WG-017360-041714-MR-027	WG-017360-100914-MR-022	WG-017360-040915-MR-023
Sample Date:		9/22/2011	10/29/2012	5/7/2013	11/5/2013	4/17/2014	10/9/2014	4/9/2015
Sample Type:								
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-7	85-7
Sample Identification:		WG-017360-102215-MR-020	WG-017360-041416-MR-033	WG-017360-100616-MR-021	WG-017360-041217-MR-040	WG-017360-041217-MR-041	GW-17360-021111-DR-029	GW-17360-093011-EM-050
Sample Date:		10/22/2015	4/14/2016	10/6/2016	4/12/2017	4/12/2017	2/11/2011	9/30/2011
Sample Type:						Duplicate		
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	10 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	1.2 J	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.42 J	1.0 U	0.61 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**9.3[ab]**	**6.9[ab]**	**6.8[ab]**	**5.5[ab]**	4.6	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.9	1.3	1.6	1.0 U	1.0	1.7	1.9
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4,5-Trichlorophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4,6-Trichlorophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4-Dichlorophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4-Dimethylphenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4-Dinitrophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2,4-Dinitrotoluene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-7	85-7
Sample Identification:		WG-017360-102215-MR-020	WG-017360-041416-MR-033	WG-017360-100616-MR-021	WG-017360-041217-MR-040	WG-017360-041217-MR-041	GW-17360-021111-DR-029	GW-17360-093011-EM-050
Sample Date:		10/22/2015	4/14/2016	10/6/2016	4/12/2017	4/12/2017	2/11/2011	9/30/2011
Sample Type:						Duplicate		
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2-Chloronaphthalene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2-Chlorophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
2-Methylphenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2-Nitroaniline	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
2-Nitrophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
3&4-Methylphenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
3-Nitroaniline	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Chloro-3-methylphenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Chloroaniline	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
4-Nitrophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Acenaphthene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Acenaphthylene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Acetophenone	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--
Anthracene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Atrazine	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--
Benzaldehyde	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Benzo(a)pyrene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Benzo(b)fluoranthene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Benzo(g,h,i)perylene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Benzo(k)fluoranthene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	1.5 J	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Caprolactam	ug/L	10 U	11 U	11 U	11 U	10 U	--	--
Carbazole	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Chrysene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Dibenz(a,h)anthracene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	2.0 U	--
Dibenzofuran	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Diethyl phthalate	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Dimethyl phthalate	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Fluoranthene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	1.0 U	--
Fluorene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Hexachlorobenzene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Hexachlorobutadiene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Hexachlorocyclopentadiene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Hexachloroethane	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	2.0 U	--
Isophorone	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Naphthalene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Nitrobenzene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
N-Nitrosodiphenylamine	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Pentachlorophenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-7	85-7
Sample Identification:		WG-017360-102215-MR-020	WG-017360-041416-MR-033	WG-017360-100616-MR-021	WG-017360-041217-MR-040	WG-017360-041217-MR-041	GW-17360-021111-DR-029	GW-17360-093011-EM-050
Sample Date:		10/22/2015	4/14/2016	10/6/2016	4/12/2017	4/12/2017	2/11/2011	9/30/2011
Sample Type:						Duplicate		
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	2.0 U	--
Phenol	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	--	--
Pyrene	ug/L	5.0 U	5.6 U	5.6 U	5.7 U	5.0 U	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	2.0 U	2.0 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	0.46 J	0.53 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	78.8 J	71 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	1.0 U	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	1.0 U	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	5.0 U	10 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	0.15 J	0.092 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	2.0 U	1.7 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	1.7 J	1.6 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	32.2	35 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	0.20 U	40 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	0.69 J	20 U
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	5.0 U	5.0 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	0.20 U	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	1.0 U	2.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	4.0 U	4.0 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	**358**[c]	190
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-6	85-6	85-6	85-6	85-6	85-7	85-7
Sample Identification:		WG-017360-102215-MR-020	WG-017360-041416-MR-033	WG-017360-100616-MR-021	WG-017360-041217-MR-040	WG-017360-041217-MR-041	GW-17360-021111-DR-029	GW-17360-093011-EM-050
Sample Date:		10/22/2015	4/14/2016	10/6/2016	4/12/2017	4/12/2017	2/11/2011	9/30/2011
Sample Type:						Duplicate		
Segment_Depth		(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(19.5-24.5) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS
AOI		AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 1, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-7	85-7	85-7	85-7	86-1	86-1	86-2	86-2
Sample Identification:		GW-17360-102512-EB-018	WG-17360-050613-EB-042	WG-17360-110413-EB-047	WG-017360-042214-MR-053	GW-17360-021511-JY-041	GW-17360-092911-EM-040	GW-17360-021411-JY-031	GW-17360-092311-EM-030
Sample Date:		10/25/2012	5/6/2013	11/4/2013	4/22/2014	2/15/2011	9/29/2011	2/14/2011	9/23/2011
Sample Type:									
Segment_Depth		(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(18.5-29) ft BGS	(18.5-29) ft BGS	(27.5-32.5) ft BGS	(27.5-32.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	10 U	25 U	10 UJ
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	10 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	10 U	50 U	10 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	25 U	10 U	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.21 J	1.0 U	0.56 J	0.22 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	1.4	1.0 U	1.6	1.0 U	1.0 U	1.0 U	3.3	3.4
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	4.8 U	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	4.8 U	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	3.8 U	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	9.6 U	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	4.8 U	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	19 U	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	4.8 U	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-7	85-7	85-7	85-7	86-1	86-1	86-2	86-2
Sample Identification:		GW-17360-102512-EB-018	WG-17360-050613-EB-042	WG-17360-110413-EB-047	WG-017360-042214-MR-053	GW-17360-021511-JY-041	GW-17360-092911-EM-040	GW-17360-021411-JY-031	GW-17360-092311-EM-030
Sample Date:		10/25/2012	5/6/2013	11/4/2013	4/22/2014	2/15/2011	9/29/2011	2/14/2011	9/23/2011
Sample Type:									
Segment_Depth		(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(18.5-29) ft BGS	(18.5-29) ft BGS	(27.5-32.5) ft BGS	(27.5-32.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	4.8 U	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	4.8 U	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	4.8 U	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
2-Methylphenol	ug/L	--	--	--	--	--	4.8 U	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	19 U	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	4.8 U	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	4.8 U	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	0.96 U	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	19 U	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	19 U	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	4.8 U	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	4.8 U	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	9.6 U	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	4.8 U	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	19 U	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	19 U	--	--
Acenaphthene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Acenaphthylene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Acetophenone	ug/L	--	--	--	--	--	4.8 U	--	--
Anthracene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Atrazine	ug/L	--	--	--	--	--	2.9 U	--	--
Benzaldehyde	ug/L	--	--	--	--	--	4.8 U	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Benzo(a)pyrene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	4.8 U	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	4.8 U	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	0.96 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	4.8 U	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	4.8 U	--	--
Caprolactam	ug/L	--	--	--	--	--	9.6 U	--	--
Carbazole	ug/L	--	--	--	--	--	9.6 U	--	--
Chrysene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	2.0 UJ	1.9 U	2.0 U	--
Dibenzofuran	ug/L	--	--	--	--	--	3.8 U	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	4.8 U	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	4.8 U	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	4.8 U	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	4.8 U	--	--
Fluoranthene	ug/L	--	--	--	--	1.0 UJ	0.96 U	1.0 U	--
Fluorene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Hexachlorobenzene	ug/L	--	--	--	--	--	0.19 U	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	0.96 U	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	4.8 UJ	--	--
Hexachloroethane	ug/L	--	--	--	--	--	4.8 U	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	2.0 UJ	1.9 U	2.0 U	--
Isophorone	ug/L	--	--	--	--	--	4.8 U	--	--
Naphthalene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Nitrobenzene	ug/L	--	--	--	--	--	2.9 U	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	4.8 U	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	4.8 U	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	4.8 U	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
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Sample Location:		85-7	85-7	85-7	85-7	86-1	86-1	86-2	86-2
Sample Identification:		GW-17360-102512-EB-018	WG-17360-050613-EB-042	WG-17360-110413-EB-047	WG-017360-042214-MR-053	GW-17360-021511-JY-041	GW-17360-092911-EM-040	GW-17360-021411-JY-031	GW-17360-092311-EM-030
Sample Date:		10/25/2012	5/6/2013	11/4/2013	4/22/2014	2/15/2011	9/29/2011	2/14/2011	9/23/2011
Sample Type:									
Segment_Depth		(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(18.5-29) ft BGS	(18.5-29) ft BGS	(27.5-32.5) ft BGS	(27.5-32.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	2.0 UJ	1.9 U	2.0 U	--
Phenol	ug/L	--	--	--	--	--	4.8 U	--	--
Pyrene	ug/L	--	--	--	--	5.0 UJ	4.8 U	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	0.41 J	0.14 J	0.083 J	0.1 J	2.0 U	2.0 U	2.0 U	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	0.24 J	0.63 J	5 U	5 U	0.46 J	0.47 J	0.69 J	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	67	64	66	48	43.1 J	33 J	53.5 J	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	2 U	2 U	2 U	1.0 U	1.0 U	1.0 U	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	0.15 J	2 U	0.31 J	0.17 J	1.0 U	0.64 J	1.0 U	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	1.1	5 U	0.59 J	1.3 J	**24.9[c]**	**94[c]**	5.0 U	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.15 J	0.96 J	1.4 J	1.7 J	1.1 J	1.7 J	7.0 U	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	1.8	0.62 J	2.3 J	5 U	2.0 U	3.0 J	2.0 U	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	**310[ab]**	--	--	--	--	--	--	--
Lead	ug/L	0.74 J	5 U	0.58 J	0.62 J	3.0 U	1.1 J	2.8 J	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	1.3	0.6 J	5 U	5 U	8.2 J	13 J	4.0 J	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	0.2 U	0.2 U	0.2 U	0.20 U	40 U	0.20 U	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	0.91 J	0.69 J	0.68 J	1 J	--	--	--	--
Nickel	ug/L	0.84 J	1.6 J	4.1 J	5 U	**134[ab]**	49	0.32 J	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	1.0 U	0.72 J	1.9 J	0.78 J	5.0 U	1.3 J	5.0 U	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	5 U	5 U	5 U	0.20 U	0.20 U	0.20 U	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	5 U	5 U	5 U	1.0 U	2.0 U	1.0 U	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	0.47 J	5 U	0.43 J	5 U	4.0 U	4.0 U	4.0 U	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	98	110	140	110	20.0 U	62 U	29.4	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		85-7	85-7	85-7	85-7	86-1	86-1	86-2	86-2
Sample Identification:		GW-17360-102512-EB-018	WG-17360-050613-EB-042	WG-17360-110413-EB-047	WG-017360-042214-MR-053	GW-17360-021511-JY-041	GW-17360-092911-EM-040	GW-17360-021411-JY-031	GW-17360-092311-EM-030
Sample Date:		10/25/2012	5/6/2013	11/4/2013	4/22/2014	2/15/2011	9/29/2011	2/14/2011	9/23/2011
Sample Type:									
Segment_Depth		(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(20.6-25.6) ft BGS	(18.5-29) ft BGS	(18.5-29) ft BGS	(27.5-32.5) ft BGS	(27.5-32.5) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	100 U	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	200 UJ	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	200 UJ	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	86-3	86-3	86-3
Sample Identification:		GW-17360-021111-DR-027	GW-17360-092211-EM-004	GW-17360-102512-JV-012	WG-17360-050113-MR-018	WG-17360-103113-MR-025	WG-017360-041614-MR-023	WG-017360-100814-MR-014	WG-017360-040815-MR-018
Sample Date:		2/11/2011	9/22/2011	10/25/2012	5/1/2013	10/31/2013	4/16/2014	10/8/2014	4/8/2015
Sample Type:									
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 U	5.0 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	10 UJ	5.0 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	0.28 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.39 J	0.49 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	0.38 J	1.0 U	1.5	1.2	1.0	1.5	1.2	1.6
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	0.21 J	1.0 U	0.84 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**7.2**[ab]	4.2	**6.2**[ab]	**7.9**[ab]	**7.2**[ab]	4.5	3.7	3.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	86-3	86-3	86-3
Sample Identification:		GW-17360-021111-DR-027	GW-17360-092211-EM-004	GW-17360-102512-JV-012	WG-17360-050113-MR-018	WG-17360-103113-MR-025	WG-017360-041614-MR-023	WG-017360-100814-MR-014	WG-017360-040815-MR-018
Sample Date:		2/11/2011	9/22/2011	10/25/2012	5/1/2013	10/31/2013	4/16/2014	10/8/2014	4/8/2015
Sample Type:									
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	--	--	--	--	--	--	--
Acenaphthylene	ug/L	5.0 U	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	2.0 U	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Fluorene	ug/L	5.0 U	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	86-3	86-3	86-3
Sample Identification:		GW-17360-021111-DR-027	GW-17360-092211-EM-004	GW-17360-102512-JV-012	WG-17360-050113-MR-018	WG-17360-103113-MR-025	WG-017360-041614-MR-023	WG-017360-100814-MR-014	WG-017360-040815-MR-018
Sample Date:		2/11/2011	9/22/2011	10/25/2012	5/1/2013	10/31/2013	4/16/2014	10/8/2014	4/8/2015
Sample Type:									
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.0 U	2.0 U	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	5.0 U	5.0 U	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	39.7 J	29 J	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	0.28 J	0.37 J	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	5.0 U	10 U	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.10 J	0.12 J	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.0 U	18	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	**8.9[ab]**	**6.2[ab]**	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	1.7 J	12 J	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	40 U	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	0.53 J	20 U	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	5.0 U	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	2.0 U	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	4.0 U	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	**652[c]**	**570[c]**	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	86-3	86-3	86-3
Sample Identification:		GW-17360-021111-DR-027	GW-17360-092211-EM-004	GW-17360-102512-JV-012	WG-17360-050113-MR-018	WG-17360-103113-MR-025	WG-017360-041614-MR-023	WG-017360-100814-MR-014	WG-017360-040815-MR-018
Sample Date:		2/11/2011	9/22/2011	10/25/2012	5/1/2013	10/31/2013	4/16/2014	10/8/2014	4/8/2015
Sample Type:									
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	87-1	87-1	87-2
Sample Identification:		WG-017360-102215-MR-016	WG-017360-040716-MR-018	WG-017360-040716-MR-019	WG-017360-100616-MR-018	WG-017360-040717-MR-020	GW-17360-021411-JY-039	GW-17360-092211-EM-019	GW-17360-021411-JY-032
Sample Date:		10/22/2015	4/7/2016	4/7/2016	10/6/2016	4/7/2017	2/14/2011	9/22/2011	2/14/2011
Sample Type:				Duplicate					
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(24-29) ft BGS	(24-29) ft BGS	(33.2-38.2) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	0.96 J	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	0.64 J	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	10 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	10 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	6.0 J	25 U	10 UJ	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.71 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.8	2.2	2.0	0.81 J	1.0 U	21	25	14
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	0.62 J	0.52 J	1.0 U	1.0 U	4.4	6.0	2.6
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	2.8	4.4	3.9	2.4	1.8	**21[ab]**	**13[ab]**	**10[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.87 J	0.73 J	0.61 J	1.0 U	1.0 U	2.0	**2.1[ab]**	**10[ab]**
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	87-1	87-1	87-2
Sample Identification:		WG-017360-102215-MR-016	WG-017360-040716-MR-018	WG-017360-040716-MR-019	WG-017360-100616-MR-018	WG-017360-040717-MR-020	GW-17360-021411-JY-039	GW-17360-092211-EM-019	GW-17360-021411-JY-032
Sample Date:		10/22/2015	4/7/2016	4/7/2016	10/6/2016	4/7/2017	2/14/2011	9/22/2011	2/14/2011
Sample Type:				Duplicate					
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(24-29) ft BGS	(24-29) ft BGS	(33.2-38.2) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Acenaphthylene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	2.0 U	--	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Fluorene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	2.0 U	--	2.0 U
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	87-1	87-1	87-2
Sample Identification:		WG-017360-102215-MR-016	WG-017360-040716-MR-018	WG-017360-040716-MR-019	WG-017360-100616-MR-018	WG-017360-040717-MR-020	GW-17360-021411-JY-039	GW-17360-092211-EM-019	GW-17360-021411-JY-032
Sample Date:		10/22/2015	4/7/2016	4/7/2016	10/6/2016	4/7/2017	2/14/2011	9/22/2011	2/14/2011
Sample Type:				Duplicate					
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(24-29) ft BGS	(24-29) ft BGS	(33.2-38.2) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	2.0 U	--	2.0 U
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	2.0 U	2.0 U	2.0 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	0.55 J	5.0 U	0.66 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	143	130	144
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	1.0 U	1.0 U	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	0.23 J	0.27 J	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	5.0 U	10 U	5.0 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	0.98 J	0.57 J	0.17 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	2.0 U	4.0 U	2.0 U
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	0.36 J	0.53 J	0.23 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	**418[ab]**	**260[ab]**	**85.1[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	0.20 U	40 U	0.20 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	1.8 J	1.6 J	0.53 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	5.0 U	5.0 U	5.0 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	0.20 U	0.20 U	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	1.0 U	2.0 U	1.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	4.0 U	4.0 U	4.0 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	331	**630[c]**	103
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		86-3	86-3	86-3	86-3	86-3	87-1	87-1	87-2
Sample Identification:		WG-017360-102215-MR-016	WG-017360-040716-MR-018	WG-017360-040716-MR-019	WG-017360-100616-MR-018	WG-017360-040717-MR-020	GW-17360-021411-JY-039	GW-17360-092211-EM-019	GW-17360-021411-JY-032
Sample Date:		10/22/2015	4/7/2016	4/7/2016	10/6/2016	4/7/2017	2/14/2011	9/22/2011	2/14/2011
Sample Type:				Duplicate					
Segment_Depth		(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(41.5-46.5) ft BGS	(24-29) ft BGS	(24-29) ft BGS	(33.2-38.2) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-2	87-4	87-4	87-5	87-5	87-8	87-8	87-8
Sample Identification:		GW-17360-092911-EM-046	GW-17360-021411-JY-033	GW-17360-092311-EM-031	GW-17360-021411-JY-034	GW-17360-092311-EM-029	GW-17360-021111-DR-028	GW-17360-092211-EM-005	GW-17360-102512-JV-014
Sample Date:		9/29/2011	2/14/2011	9/23/2011	2/14/2011	9/23/2011	2/11/2011	9/22/2011	10/25/2012
Sample Type:									
Segment_Depth		(33.2-38.2) ft BGS	(24-27) ft BGS	(24-27) ft BGS	(39.5-50.5) ft BGS	(39.5-50.5) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	2.2	0.49 J	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	25 U	10 U	25 U	10 UJ	25 U	10 U	5.0 U
2-Hexanone	ug/L	10 U	50 U	10 U	50 U	10 U	50 U	10 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	50 U	10 U	50 U	10 U	50 U	10 U	5.0 U
Acetone	ug/L	10 U	25 U	10 U	25 U	10 UJ	1.2 J	10 UJ	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 UJ	5.0 U	5.0 U	0.63 J	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.2	1.2	1.0 U	1.0 U	0.20 J	0.25 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	12	1.0 U	1.0 U	1.0 U	0.39 J	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.46 J	5.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 J	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	2.6	1.0 U	1.0 U	1.7	1.1	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**15[ab]**	4.3	3.8	0.73 J	1.7	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	**2.6[ab]**	1.0 U	1.0 U	**27[abc]**	0.23 J	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	3.0 U	2.0 U	3.0 U	2.0 U	3.0 U	2.0 U	3.0 UJ
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-2	87-4	87-4	87-5	87-5	87-8	87-8	87-8
Sample Identification:		GW-17360-092911-EM-046	GW-17360-021411-JY-033	GW-17360-092311-EM-031	GW-17360-021411-JY-034	GW-17360-092311-EM-029	GW-17360-021111-DR-028	GW-17360-092211-EM-005	GW-17360-102512-JV-014
Sample Date:		9/29/2011	2/14/2011	9/23/2011	2/14/2011	9/23/2011	2/11/2011	9/22/2011	10/25/2012
Sample Type:									
Segment_Depth		(33.2-38.2) ft BGS	(24-27) ft BGS	(24-27) ft BGS	(39.5-50.5) ft BGS	(39.5-50.5) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
Acenaphthylene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	1.0 UJ	--	1.0 U	--	1.0 U	--	--
Benzo(a)pyrene	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	--	--
Benzo(b)fluoranthene	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	--	--
Benzo(g,h,i)perylene	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	--	--
Benzo(k)fluoranthene	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	1.0 UJ	--	1.0 U	--	1.0 U	--	--
Dibenz(a,h)anthracene	ug/L	--	2.0 U	--	2.0 U	--	2.0 U	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	--	--
Fluorene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0 U	--	2.0 U	--	2.0 U	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	5.0 U	--	5.0 U	--	5.0 U	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-2	87-4	87-4	87-5	87-5	87-8	87-8	87-8
Sample Identification:		GW-17360-092911-EM-046	GW-17360-021411-JY-033	GW-17360-092311-EM-031	GW-17360-021411-JY-034	GW-17360-092311-EM-029	GW-17360-021111-DR-028	GW-17360-092211-EM-005	GW-17360-102512-JV-014
Sample Date:		9/29/2011	2/14/2011	9/23/2011	2/14/2011	9/23/2011	2/11/2011	9/22/2011	10/25/2012
Sample Type:									
Segment_Depth		(33.2-38.2) ft BGS	(24-27) ft BGS	(24-27) ft BGS	(39.5-50.5) ft BGS	(39.5-50.5) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	2.0 U	--	2.0 U	--	2.0 U	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	5.0 UJ	--	5.0 U	--	5.0 U	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	0.42 J	2.0 U	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	0.48 J	5.0 U	5.0 U	5.0 U	5.0 U	0.64 J	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	140	51.3 J	53 J	110	71 J	69.4 J	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	1.0 U	1.0 U	1.0 U	0.22 J	0.17 J	0.36 J	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	10 U	1.3 J	1.5 J	5.0 U	10 U	0.91 J	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.17 J	7.0 U	20 U	0.11 J	0.092 J	0.31 J	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	0.35 J	2.0 U	4.0 U	2.0 U	4.0 U	2.0 U	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	0.51 J	3.0 U	0.33 J	**13.8[ab]**	**22[ab]**	3.0 U	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	**84[ab]**	13.2 J	5.8 J	32.9	8.7 J	15.0 U	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	40 U	0.20 U	40 U	0.20 U	40 U	0.20 U	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	0.54 J	0.42 J	20 U	0.59 J	20 U	0.98 J	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	5.0 U	0.63 J	5.0 U	5.0 U	5.0 U	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	210	**390[c]**	250	**1120[c]**	**3300[ac]**	113	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-2	87-4	87-4	87-5	87-5	87-8	87-8	87-8
Sample Identification:		GW-17360-092911-EM-046	GW-17360-021411-JY-033	GW-17360-092311-EM-031	GW-17360-021411-JY-034	GW-17360-092311-EM-029	GW-17360-021111-DR-028	GW-17360-092211-EM-005	GW-17360-102512-JV-014
Sample Date:		9/29/2011	2/14/2011	9/23/2011	2/14/2011	9/23/2011	2/11/2011	9/22/2011	10/25/2012
Sample Type:									
Segment_Depth		(33.2-38.2) ft BGS	(24-27) ft BGS	(24-27) ft BGS	(39.5-50.5) ft BGS	(39.5-50.5) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-8	87-8	87-8	87-8	87-8
Sample Identification:		WG-17360-043013-MR-005	WG-17360-103113-MR-026	WG-17360-103113-MR-027	WG-017360-041714-MR-025	WG-017360-100814-MR-015	WG-017360-040715-MR-014	WG-017360-102115-MR-013	WG-017360-040716-MR-017
Sample Date:		4/30/2013	10/31/2013	10/31/2013	4/17/2014	10/8/2014	4/7/2015	10/21/2015	4/7/2016
Sample Type:				Duplicate					
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-8	87-8	87-8	87-8	87-8
Sample Identification:		WG-17360-043013-MR-005	WG-17360-103113-MR-026	WG-17360-103113-MR-027	WG-017360-041714-MR-025	WG-017360-100814-MR-015	WG-017360-040715-MR-014	WG-017360-102115-MR-013	WG-017360-040716-MR-017
Sample Date:		4/30/2013	10/31/2013	10/31/2013	4/17/2014	10/8/2014	4/7/2015	10/21/2015	4/7/2016
Sample Type:				Duplicate					
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-8	87-8	87-8	87-8	87-8
Sample Identification:		WG-17360-043013-MR-005	WG-17360-103113-MR-026	WG-17360-103113-MR-027	WG-017360-041714-MR-025	WG-017360-100814-MR-015	WG-017360-040715-MR-014	WG-017360-102115-MR-013	WG-017360-040716-MR-017
Sample Date:		4/30/2013	10/31/2013	10/31/2013	4/17/2014	10/8/2014	4/7/2015	10/21/2015	4/7/2016
Sample Type:				Duplicate					
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-8	87-8	87-8	87-8	87-8
Sample Identification:		WG-17360-043013-MR-005	WG-17360-103113-MR-026	WG-17360-103113-MR-027	WG-017360-041714-MR-025	WG-017360-100814-MR-015	WG-017360-040715-MR-014	WG-017360-102115-MR-013	WG-017360-040716-MR-017
Sample Date:		4/30/2013	10/31/2013	10/31/2013	4/17/2014	10/8/2014	4/7/2015	10/21/2015	4/7/2016
Sample Type:				Duplicate					
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-9	87-9	87-9	87-9	87-9
Sample Identification:		WG-017360-100616-MR-019	WG-017360-100616-MR-020	WG-017360-040617-MR-015	GW-17360-021111-DR-026	GW-17360-092211-EM-001	GW-17360-102512-JV-010	WG-17360-050113-MR-014	WG-17360-050113-MR-015
Sample Date:		10/6/2016	10/6/2016	4/6/2017	2/11/2011	9/22/2011	10/25/2012	5/1/2013	5/1/2013
Sample Type:			Duplicate						Duplicate
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	10 U	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	3.4 J	1.5 J	10 UJ	5.0 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.7	1.3	1.5	1.6	1.6
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	2.2	1.2	1.4	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 UJ	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-9	87-9	87-9	87-9	87-9
Sample Identification:		WG-017360-100616-MR-019	WG-017360-100616-MR-020	WG-017360-040617-MR-015	GW-17360-021111-DR-026	GW-17360-092211-EM-001	GW-17360-102512-JV-010	WG-17360-050113-MR-014	WG-17360-050113-MR-015
Sample Date:		10/6/2016	10/6/2016	4/6/2017	2/11/2011	9/22/2011	10/25/2012	5/1/2013	5/1/2013
Sample Type:			Duplicate						Duplicate
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	5.0 U	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	5.0 U	--	--	--	--
Acenaphthylene	ug/L	--	--	--	5.0 U	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	5.0 U	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	1.0 U	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	1.0 U	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	1.0 U	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	1.0 U	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	1.0 U	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	1.0 U	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	2.0 U	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	1.0 U	--	--	--	--
Fluorene	ug/L	--	--	--	5.0 U	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	2.0 U	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	5.0 U	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-9	87-9	87-9	87-9	87-9
Sample Identification:		WG-017360-100616-MR-019	WG-017360-100616-MR-020	WG-017360-040617-MR-015	GW-17360-021111-DR-026	GW-17360-092211-EM-001	GW-17360-102512-JV-010	WG-17360-050113-MR-014	WG-17360-050113-MR-015
Sample Date:		10/6/2016	10/6/2016	4/6/2017	2/11/2011	9/22/2011	10/25/2012	5/1/2013	5/1/2013
Sample Type:			Duplicate						Duplicate
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	2.0 U	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	5.0 U	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	2.0 U	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	5.0 U	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	49.4 J	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	1.0 U	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	0.13 J	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	5.0 U	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	7.0 U	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	2.0 U	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	0.20 J	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	15.0 U	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	0.20 U	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	0.46 J	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	5.0 U	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	0.20 U	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	1.0 U	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	4.0 U	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	90.9	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-8	87-8	87-8	87-9	87-9	87-9	87-9	87-9
Sample Identification:		WG-017360-100616-MR-019	WG-017360-100616-MR-020	WG-017360-040617-MR-015	GW-17360-021111-DR-026	GW-17360-092211-EM-001	GW-17360-102512-JV-010	WG-17360-050113-MR-014	WG-17360-050113-MR-015
Sample Date:		10/6/2016	10/6/2016	4/6/2017	2/11/2011	9/22/2011	10/25/2012	5/1/2013	5/1/2013
Sample Type:			Duplicate						Duplicate
Segment_Depth		(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(19.7-22.7) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(50.5-53.5) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-9	87-9	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-17360-103013-MR-021	WG-017360-041714-MR-026	GW-17360-021011-DR-016	GW-17360-021011-DR-017	GW-17360-092211-EM-009	GW-17360-102612-JV-027	WG-17360-050113-MR-007	WG-17360-103013-MR-015
Sample Date:		10/30/2013	4/17/2014	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013
Sample Type:					Duplicate				
Segment_Depth		(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.18 J	0.28 J	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	0.22 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	10 U	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	25 U	25 U	10 UJ	5.0 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.88 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.61 J	0.50 J	0.51 J	0.59 J	1.1	1.0 U	0.81 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	3.1 J	3.0 J	0.75 J	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	0.48 J	0.50 J	0.48 J	0.37 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.6	2.0	**7.1**[ab]	**7.5**[ab]	4.9	5.0	3.8	3.9
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-9	87-9	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-17360-103013-MR-021	WG-017360-041714-MR-026	GW-17360-021011-DR-016	GW-17360-021011-DR-017	GW-17360-092211-EM-009	GW-17360-102612-JV-027	WG-17360-050113-MR-007	WG-17360-103013-MR-015
Sample Date:		10/30/2013	4/17/2014	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013
Sample Type:					Duplicate				
Segment_Depth		(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Acenaphthylene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Fluorene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-9	87-9	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-17360-103013-MR-021	WG-017360-041714-MR-026	GW-17360-021011-DR-016	GW-17360-021011-DR-017	GW-17360-092211-EM-009	GW-17360-102612-JV-027	WG-17360-050113-MR-007	WG-17360-103013-MR-015
Sample Date:		10/30/2013	4/17/2014	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013
Sample Type:					Duplicate				
Segment_Depth		(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	71.1 J	72.2 J	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	0.28 J	0.29 J	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	1.4 J	1.0 J	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	31.0	31.6	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	0.20 U	0.20 U	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	0.96 J	1.0 J	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	5.0 U	5.0 U	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	0.20 U	0.20 U	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	1.0 U	1.0 U	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	4.0 U	4.0 U	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	88.3	68.6	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-9	87-9	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-17360-103013-MR-021	WG-017360-041714-MR-026	GW-17360-021011-DR-016	GW-17360-021011-DR-017	GW-17360-092211-EM-009	GW-17360-102612-JV-027	WG-17360-050113-MR-007	WG-17360-103013-MR-015
Sample Date:		10/30/2013	4/17/2014	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013
Sample Type:					Duplicate				
Segment_Depth		(50.5-53.5) ft BGS	(50.5-53.5) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-10	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-017360-041514-MR-009	WG-017360-100814-MR-012	WG-017360-040715-MR-011	WG-017360-102115-MR-008	WG-017360-040616-MR-008	WG-017360-100416-MR-007	WG-017360-040517-MR-008
Sample Date:		4/15/2014	10/8/2014	4/7/2015	10/21/2015	4/6/2016	10/4/2016	4/5/2017
Sample Type:								
Segment_Depth		(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	8.1
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	12	33
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	0.62 J	1.0 U	1.0 U	1.0 U	0.61 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.5	3.2	1.2	2.6	3.4	1.9	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-10	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-017360-041514-MR-009	WG-017360-100814-MR-012	WG-017360-040715-MR-011	WG-017360-102115-MR-008	WG-017360-040616-MR-008	WG-017360-100416-MR-007	WG-017360-040517-MR-008
Sample Date:		4/15/2014	10/8/2014	4/7/2015	10/21/2015	4/6/2016	10/4/2016	4/5/2017
Sample Type:								
Segment_Depth		(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-10	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-017360-041514-MR-009	WG-017360-100814-MR-012	WG-017360-040715-MR-011	WG-017360-102115-MR-008	WG-017360-040616-MR-008	WG-017360-100416-MR-007	WG-017360-040517-MR-008
Sample Date:		4/15/2014	10/8/2014	4/7/2015	10/21/2015	4/6/2016	10/4/2016	4/5/2017
Sample Type:								
Segment_Depth		(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-10	87-10	87-10	87-10	87-10	87-10	87-10
Sample Identification:		WG-017360-041514-MR-009	WG-017360-100814-MR-012	WG-017360-040715-MR-011	WG-017360-102115-MR-008	WG-017360-040616-MR-008	WG-017360-100416-MR-007	WG-017360-040517-MR-008
Sample Date:		4/15/2014	10/8/2014	4/7/2015	10/21/2015	4/6/2016	10/4/2016	4/5/2017
Sample Type:								
Segment_Depth		(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS	(29-32) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-11	87-11	87-11	87-11	87-11	87-11	87-11	87-13
Sample Identification:		GW-17360-021011-DR-018	GW-17360-092211-EM-008	GW-17360-102612-JV-026	WG-17360-050113-MR-008	WG-17360-103013-MR-016	WG-17360-103013-MR-017	WG-017360-041514-MR-010	GW-17360-021011-DR-012
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013	10/30/2013	4/15/2014	2/10/2011
Sample Type:							Duplicate		
Segment_Depth		(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.7	1.0 U	1.2	1.0 U	0.78 J	1.0 U	0.48 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	0.86 J	0.50 J	0.51 J	1.0 U	1.0 U	1.0 U	0.72 J	1.0 U
1,1-Dichloroethene	ug/L	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 U	5.0 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	10 UJ	5.0 U	50 U	50 U	50 U	50 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Carbon disulfide	ug/L	0.31 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	15	5.5	7.0	20	8.3	9.2	16	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	0.22 J	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.31 J
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.30 J	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**36**[ab]	**17**[ab]	**24**[ab]	**10**[ab]	**17**[ab]	**19**[ab]	**14**[ab]	0.53 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	**3.1**[ab]	1.9	1.0	1.0 U	1.0 U	1.0 U	1.2	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-11	87-11	87-11	87-11	87-11	87-11	87-11	87-13
Sample Identification:		GW-17360-021011-DR-018	GW-17360-092211-EM-008	GW-17360-102612-JV-026	WG-17360-050113-MR-008	WG-17360-103013-MR-016	WG-17360-103013-MR-017	WG-017360-041514-MR-010	GW-17360-021011-DR-012
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013	10/30/2013	4/15/2014	2/10/2011
Sample Type:							Duplicate		
Segment_Depth		(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	--	--	--	--	--	--	--
Acenaphthylene	ug/L	5.0 U	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	2.0 U	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Fluorene	ug/L	5.0 U	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-11	87-11	87-11	87-11	87-11	87-11	87-11	87-13
Sample Identification:		GW-17360-021011-DR-018	GW-17360-092211-EM-008	GW-17360-102612-JV-026	WG-17360-050113-MR-008	WG-17360-103013-MR-016	WG-17360-103013-MR-017	WG-017360-041514-MR-010	GW-17360-021011-DR-012
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013	10/30/2013	4/15/2014	2/10/2011
Sample Type:							Duplicate		
Segment_Depth		(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	0.30 J	0.16 J	1.0 U	0.12 J	0.083 J	0.086 J	0.15 J	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	0.75 J	0.67 J	0.37 J	5 U	5 U	5 U	5 U	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	118	98 J	110	110	110	120	91	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	1.0 U	2 U	2 U	2 U	2 U	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	0.48 J	2.7	0.49	0.39 J	0.54 J	0.35 J	0.32 J	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	5.0 U	10 U	1.0 U	0.36 J	5 U	5 U	5 U	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.54 J	0.65 J	0.46 J	0.36 J	0.65 J	0.67 J	0.72 J	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.0 U	6.4	1.4	5 U	1.1 J	0.92 J	1.1 J	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	160	--	--	--	--	--
Lead	ug/L	1.4 J	**4.4[ab]**	1.7	0.83 J	0.99 J	0.3 J	1.4 J	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	**115[ab]**	**94[ab]**	**87[ab]**	**79[ab]**	**74[ab]**	**77[ab]**	47	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	40 U	0.20 U	0.2 U	0.2 U	0.2 U	0.2 U	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	0.35 J	0.6 J	0.2 J	0.22 J	0.36 J	--
Nickel	ug/L	2.0 J	3.1 J	2.3	2 J	4 J	4 J	4.4 J	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	5.0 U	1.0 U	5 U	1 J	0.86 J	0.92 J	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	0.20 U	5 U	5 U	5 U	5 U	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	2.0 U	1.0 U	5 U	5 U	5 U	5 U	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	4.0 U	0.18 J	5 U	5 U	5 U	5 U	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	**1070[c]**	**2500[ac]**	**1700[c]**	**380[c]**	**1100 J[c]**	**550 J[c]**	**850[c]**	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-11	87-11	87-11	87-11	87-11	87-11	87-11	87-13
Sample Identification:		GW-17360-021011-DR-018	GW-17360-092211-EM-008	GW-17360-102612-JV-026	WG-17360-050113-MR-008	WG-17360-103013-MR-016	WG-17360-103013-MR-017	WG-017360-041514-MR-010	GW-17360-021011-DR-012
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/30/2013	10/30/2013	4/15/2014	2/10/2011
Sample Type:							Duplicate		
Segment_Depth		(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(30-33) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	87-13	87-13	87-13	87-13
Sample Identification:		GW-17360-092211-EM-007	GW-17360-102512-JV-015	WG-17360-043013-MR-001	WG-17360-102813-MR-004	WG-017360-041414-MR-005	WG-017360-041414-MR-006	WG-017360-100714-MR-006	WG-017360-040815-MR-016
Sample Date:		9/22/2011	10/25/2012	4/30/2013	10/28/2013	4/14/2014	4/14/2014	10/7/2014	4/8/2015
Sample Type:							Duplicate		
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	10 UJ	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.45 J	0.42 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	87-13	87-13	87-13	87-13
Sample Identification:		GW-17360-092211-EM-007	GW-17360-102512-JV-015	WG-17360-043013-MR-001	WG-17360-102813-MR-004	WG-017360-041414-MR-005	WG-017360-041414-MR-006	WG-017360-100714-MR-006	WG-017360-040815-MR-016
Sample Date:		9/22/2011	10/25/2012	4/30/2013	10/28/2013	4/14/2014	4/14/2014	10/7/2014	4/8/2015
Sample Type:							Duplicate		
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	87-13	87-13	87-13	87-13
Sample Identification:		GW-17360-092211-EM-007	GW-17360-102512-JV-015	WG-17360-043013-MR-001	WG-17360-102813-MR-004	WG-017360-041414-MR-005	WG-017360-041414-MR-006	WG-017360-100714-MR-006	WG-017360-040815-MR-016
Sample Date:		9/22/2011	10/25/2012	4/30/2013	10/28/2013	4/14/2014	4/14/2014	10/7/2014	4/8/2015
Sample Type:							Duplicate		
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	87-13	87-13	87-13	87-13
Sample Identification:		GW-17360-092211-EM-007	GW-17360-102512-JV-015	WG-17360-043013-MR-001	WG-17360-102813-MR-004	WG-017360-041414-MR-005	WG-017360-041414-MR-006	WG-017360-100714-MR-006	WG-017360-040815-MR-016
Sample Date:		9/22/2011	10/25/2012	4/30/2013	10/28/2013	4/14/2014	4/14/2014	10/7/2014	4/8/2015
Sample Type:							Duplicate		
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	88-2	88-2	88-2	88-2
Sample Identification:		WG-017360-102015-MR-003	WG-017360-040616-MR-005	WG-017360-100416-MR-002	WG-017360-040517-MR-005	GW-17360-020911-DR-004	GW-17360-092311-EM-025	GW-17360-103012-JV-043	WG-17360-050213-MR-024
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013
Sample Type:									
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 UJ	25 U	25 U	25 U	25 U	10 UJ	5.0 U	25 U
2-Hexanone	ug/L	50 UJ	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
Acetone	ug/L	50 UJ	50 U	50 U	50 U	25 U	10 UJ	5.0 U	50 U
Benzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Carbon disulfide	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Methylene chloride	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Styrene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	88-2	88-2	88-2	88-2
Sample Identification:		WG-017360-102015-MR-003	WG-017360-040616-MR-005	WG-017360-100416-MR-002	WG-017360-040517-MR-005	GW-17360-020911-DR-004	GW-17360-092311-EM-025	GW-17360-103012-JV-043	WG-17360-050213-MR-024
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013
Sample Type:									
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	88-2	88-2	88-2	88-2
Sample Identification:		WG-017360-102015-MR-003	WG-017360-040616-MR-005	WG-017360-100416-MR-002	WG-017360-040517-MR-005	GW-17360-020911-DR-004	GW-17360-092311-EM-025	GW-17360-103012-JV-043	WG-17360-050213-MR-024
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013
Sample Type:									
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		87-13	87-13	87-13	87-13	88-2	88-2	88-2	88-2
Sample Identification:		WG-017360-102015-MR-003	WG-017360-040616-MR-005	WG-017360-100416-MR-002	WG-017360-040517-MR-005	GW-17360-020911-DR-004	GW-17360-092311-EM-025	GW-17360-103012-JV-043	WG-17360-050213-MR-024
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013
Sample Type:									
Segment_Depth		(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(40-43) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-2	88-2	88-2	88-3	88-3	88-3	88-3	88-3
Sample Identification:		WG-17360-050213-MR-025	WG-17360-102913-MR-010	WG-017360-041614-MR-019	GW-17360-020911-DR-005	GW-17360-092311-EM-024	GW-17360-103012-JV-042	WG-17360-050213-MR-023	WG-17360-102913-MR-009
Sample Date:		5/2/2013	10/29/2013	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:		Duplicate							
Segment_Depth		(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	10 UJ	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	25 U	10 UJ	5.0 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	0.59 J	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.4	0.26 J	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-2	88-2	88-2	88-3	88-3	88-3	88-3	88-3
Sample Identification:		WG-17360-050213-MR-025	WG-17360-102913-MR-010	WG-017360-041614-MR-019	GW-17360-020911-DR-005	GW-17360-092311-EM-024	GW-17360-103012-JV-042	WG-17360-050213-MR-023	WG-17360-102913-MR-009
Sample Date:		5/2/2013	10/29/2013	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:		Duplicate							
Segment_Depth		(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-2	88-2	88-2	88-3	88-3	88-3	88-3	88-3
Sample Identification:		WG-17360-050213-MR-025	WG-17360-102913-MR-010	WG-017360-041614-MR-019	GW-17360-020911-DR-005	GW-17360-092311-EM-024	GW-17360-103012-JV-042	WG-17360-050213-MR-023	WG-17360-102913-MR-009
Sample Date:		5/2/2013	10/29/2013	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:		Duplicate							
Segment_Depth		(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-2	88-2	88-2	88-3	88-3	88-3	88-3	88-3
Sample Identification:		WG-17360-050213-MR-025	WG-17360-102913-MR-010	WG-017360-041614-MR-019	GW-17360-020911-DR-005	GW-17360-092311-EM-024	GW-17360-103012-JV-042	WG-17360-050213-MR-023	WG-17360-102913-MR-009
Sample Date:		5/2/2013	10/29/2013	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:		Duplicate							
Segment_Depth		(26-29) ft BGS	(26-29) ft BGS	(26-29) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS	(27-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-3	88-3	88-4	88-4	88-4	88-4	88-4	88-4
Sample Identification:		WG-017360-041614-MR-017	WG-017360-041614-MR-018	GW-17360-020911-DR-006	GW-17360-092311-EM-023	GW-17360-103012-JV-041	WG-17360-050213-MR-022	WG-17360-102913-MR-008	WG-017360-041614-MR-016
Sample Date:		4/16/2014	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013	4/16/2014
Sample Type:			Duplicate						
Segment_Depth		(27-30) ft BGS	(27-30) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	10 UJ	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	25 U	10 UJ	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-3	88-3	88-4	88-4	88-4	88-4	88-4	88-4
Sample Identification:		WG-017360-041614-MR-017	WG-017360-041614-MR-018	GW-17360-020911-DR-006	GW-17360-092311-EM-023	GW-17360-103012-JV-041	WG-17360-050213-MR-022	WG-17360-102913-MR-008	WG-017360-041614-MR-016
Sample Date:		4/16/2014	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013	4/16/2014
Sample Type:			Duplicate						
Segment_Depth		(27-30) ft BGS	(27-30) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-3	88-3	88-4	88-4	88-4	88-4	88-4	88-4
Sample Identification:		WG-017360-041614-MR-017	WG-017360-041614-MR-018	GW-17360-020911-DR-006	GW-17360-092311-EM-023	GW-17360-103012-JV-041	WG-17360-050213-MR-022	WG-17360-102913-MR-008	WG-017360-041614-MR-016
Sample Date:		4/16/2014	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013	4/16/2014
Sample Type:			Duplicate						
Segment_Depth		(27-30) ft BGS	(27-30) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		88-3	88-3	88-4	88-4	88-4	88-4	88-4	88-4
Sample Identification:		WG-017360-041614-MR-017	WG-017360-041614-MR-018	GW-17360-020911-DR-006	GW-17360-092311-EM-023	GW-17360-103012-JV-041	WG-17360-050213-MR-022	WG-17360-102913-MR-008	WG-017360-041614-MR-016
Sample Date:		4/16/2014	4/16/2014	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013	4/16/2014
Sample Type:			Duplicate						
Segment_Depth		(27-30) ft BGS	(27-30) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS	(18-21) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-1	C-1	C-1	C-1
Sample Identification:		GW-17360-020911-DR-010	GW-17360-092911-EM-047	SW-17360-103012-JV-048	WS-17360-050113-MR-013	SW-17360-102913-MR-024	SW-017360-041414-MR-003	SW-017360-100714-MR-003	SW-017360-040615-MR-006
Sample Date:		2/9/2011	9/29/2011	10/30/2012	5/1/2013	10/29/2013	4/14/2014	10/7/2014	4/6/2015
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	1.1 J	5.0 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	11	7.1 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.28 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	0.42 J	1.0 U	0.87 J	3.6	1.0 U	1.6	1.0	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	0.27 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	0.57 J	1.7	**7.4**[ab]	2.2	4.7	3.7	0.47 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.40 J	1.0 U	0.55 J	2.3	1.0 U	1.1	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	0.71 J	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-1	C-1	C-1	C-1
Sample Identification:		GW-17360-020911-DR-010	GW-17360-092911-EM-047	SW-17360-103012-JV-048	WS-17360-050113-MR-013	SW-17360-102913-MR-024	SW-017360-041414-MR-003	SW-017360-100714-MR-003	SW-017360-040615-MR-006
Sample Date:		2/9/2011	9/29/2011	10/30/2012	5/1/2013	10/29/2013	4/14/2014	10/7/2014	4/6/2015
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-1	C-1	C-1	C-1
Sample Identification:		GW-17360-020911-DR-010	GW-17360-092911-EM-047	SW-17360-103012-JV-048	WS-17360-050113-MR-013	SW-17360-102913-MR-024	SW-017360-041414-MR-003	SW-017360-100714-MR-003	SW-017360-040615-MR-006
Sample Date:		2/9/2011	9/29/2011	10/30/2012	5/1/2013	10/29/2013	4/14/2014	10/7/2014	4/6/2015
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-1	C-1	C-1	C-1
Sample Identification:		GW-17360-020911-DR-010	GW-17360-092911-EM-047	SW-17360-103012-JV-048	WS-17360-050113-MR-013	SW-17360-102913-MR-024	SW-017360-041414-MR-003	SW-017360-100714-MR-003	SW-017360-040615-MR-006
Sample Date:		2/9/2011	9/29/2011	10/30/2012	5/1/2013	10/29/2013	4/14/2014	10/7/2014	4/6/2015
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-2	C-2	C-2	C-2
Sample Identification:		SW-017360-102015-MR-007	SW-017360-040516-MR-003	WG-017360-100416-MR-005	SW-017360-040517-MR-001	GW-17360-020911-DR-009	GW-17360-092911-EM-048	SW-17360-103012-JV-049	WS-17360-050113-MR-012
Sample Date:		10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/9/2011	9/29/2011	10/30/2012	5/1/2013
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	3.3 J	25 U	3.3 J	5.0 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
Acetone	ug/L	50 U	50 U	50 U	11 J	25 U	12	5.0 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.63 J	0.81 J	1.0 U	1.0 U	0.42 J	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.4	1.4	1.0 U	1.0	1.0 U	1.1	2.4
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.42 J	1.0 UJ	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.27 J	5.0 U	1.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.13 J	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	4.3	2.8	1.0 U	0.66 J	0.32 J	0.80 J	2.1
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.2	1.0 U	1.0 U	0.59 J	1.0 U	0.47 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 J	1.0 U	0.26 J	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	0.60 J	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-2	C-2	C-2	C-2
Sample Identification:		SW-017360-102015-MR-007	SW-017360-040516-MR-003	WG-017360-100416-MR-005	SW-017360-040517-MR-001	GW-17360-020911-DR-009	GW-17360-092911-EM-048	SW-17360-103012-JV-049	WS-17360-050113-MR-012
Sample Date:		10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/9/2011	9/29/2011	10/30/2012	5/1/2013
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-2	C-2	C-2	C-2
Sample Identification:		SW-017360-102015-MR-007	SW-017360-040516-MR-003	WG-017360-100416-MR-005	SW-017360-040517-MR-001	GW-17360-020911-DR-009	GW-17360-092911-EM-048	SW-17360-103012-JV-049	WS-17360-050113-MR-012
Sample Date:		10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/9/2011	9/29/2011	10/30/2012	5/1/2013
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-1	C-1	C-1	C-1	C-2	C-2	C-2	C-2
Sample Identification:		SW-017360-102015-MR-007	SW-017360-040516-MR-003	WG-017360-100416-MR-005	SW-017360-040517-MR-001	GW-17360-020911-DR-009	GW-17360-092911-EM-048	SW-17360-103012-JV-049	WS-17360-050113-MR-012
Sample Date:		10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/9/2011	9/29/2011	10/30/2012	5/1/2013
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		SW-17360-102813-EB-002	SW-017360-041414-MR-001	SW-017360-100714-MR-001	SW-017360-040615-MR-004	SW-017360-102015-MR-006	SW-017360-040516-MR-001	WG-017360-100416-MR-006	SW-017360-040517-MR-002
Sample Date:		10/28/2013	4/14/2014	10/7/2014	4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	3.3 J
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	14 J
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.4	1.0 U	1.1	1.0 U	0.87 J	1.3	0.91 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	2.5	1.0 U	1.0 U	1.6	0.91 J	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 J	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		SW-17360-102813-EB-002	SW-017360-041414-MR-001	SW-017360-100714-MR-001	SW-017360-040615-MR-004	SW-017360-102015-MR-006	SW-017360-040516-MR-001	WG-017360-100416-MR-006	SW-017360-040517-MR-002
Sample Date:		10/28/2013	4/14/2014	10/7/2014	4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		SW-17360-102813-EB-002	SW-017360-041414-MR-001	SW-017360-100714-MR-001	SW-017360-040615-MR-004	SW-017360-102015-MR-006	SW-017360-040516-MR-001	WG-017360-100416-MR-006	SW-017360-040517-MR-002
Sample Date:		10/28/2013	4/14/2014	10/7/2014	4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-2	C-2	C-2	C-2	C-2	C-2	C-2	C-2
Sample Identification:		SW-17360-102813-EB-002	SW-017360-041414-MR-001	SW-017360-100714-MR-001	SW-017360-040615-MR-004	SW-017360-102015-MR-006	SW-017360-040516-MR-001	WG-017360-100416-MR-006	SW-017360-040517-MR-002
Sample Date:		10/28/2013	4/14/2014	10/7/2014	4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		GW-17360-021011-DR-015	GW-17360-092911-EM-049	SW-17360-103012-JV-050	SW-17360-110812-EB-009	WS-17360-050113-MR-009	SW-17360-102813-EB-001	SW-017360-041414-MR-002	SW-017360-100714-MR-002
Sample Date:		2/10/2011	9/29/2011	10/30/2012	11/8/2012	5/1/2013	10/28/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	0.95 J	5.0 U	--	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	10 U	5.0 U	--	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	--	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	11	5.0 U	--	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.3	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	0.79 J	1.0 UJ	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 UJ	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.4	1.0 U	1.0 U	--	1.0 U	1.2	1.0 U	1.5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.2	1.0 UJ	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	5.0 U	--	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.8	1.0 U	1.0 U	--	1.0 U	2.9	0.75 J	4.4
Toluene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.57 J	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.52 J	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 U	--	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		GW-17360-021011-DR-015	GW-17360-092911-EM-049	SW-17360-103012-JV-050	SW-17360-110812-EB-009	WS-17360-050113-MR-009	SW-17360-102813-EB-001	SW-017360-041414-MR-002	SW-017360-100714-MR-002
Sample Date:		2/10/2011	9/29/2011	10/30/2012	11/8/2012	5/1/2013	10/28/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		GW-17360-021011-DR-015	GW-17360-092911-EM-049	SW-17360-103012-JV-050	SW-17360-110812-EB-009	WS-17360-050113-MR-009	SW-17360-102813-EB-001	SW-017360-041414-MR-002	SW-017360-100714-MR-002
Sample Date:		2/10/2011	9/29/2011	10/30/2012	11/8/2012	5/1/2013	10/28/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	C-3	C-3	C-3
Sample Identification:		GW-17360-021011-DR-015	GW-17360-092911-EM-049	SW-17360-103012-JV-050	SW-17360-110812-EB-009	WS-17360-050113-MR-009	SW-17360-102813-EB-001	SW-017360-041414-MR-002	SW-017360-100714-MR-002
Sample Date:		2/10/2011	9/29/2011	10/30/2012	11/8/2012	5/1/2013	10/28/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth									
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	MW1-03	MW1-03	MW1-03
Sample Identification:		SW-017360-040615-MR-005	SW-017360-102015-MR-004	SW-017360-040516-MR-002	WG-017360-100416-MR-008	SW-017360-040517-MR-003	GW-17360-021011-DR-023	GW-17360-092211-EM-020	GW-17360-102912-DD-038
Sample Date:		4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/10/2011	9/22/2011	10/29/2012
Sample Type:									
Segment_Depth							(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	9.1 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	3.6 J	250 U	91 UJ	5.0 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	500 U	91 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	500 U	91 U	5.0 U
Acetone	ug/L	50 U	50 U	50 U	50 U	23 J	250 U	91 UJ	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	9.1 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	45 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	9.1 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.37 J	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	9.1 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.2	0.96 J	1.0 U	1.0 U	10 U	9.1 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	5.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	9.1 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	9.1 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	9.1 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	100 U	91 UJ	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	45 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	45 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Tetrachloroethene	ug/L	0.86 J	2.5	1.8	1.2	1.0 U	**300[abc]**	**180[abc]**	**160[abc]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.5 J	2.3 J	1.4
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 UJ	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Vinyl chloride	ug/L	1.0 U	0.86 J	1.0 U	1.0 U	1.0 U	10 U	9.1 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	30 U	18 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	MW1-03	MW1-03	MW1-03
Sample Identification:		SW-017360-040615-MR-005	SW-017360-102015-MR-004	SW-017360-040516-MR-002	WG-017360-100416-MR-008	SW-017360-040517-MR-003	GW-17360-021011-DR-023	GW-17360-092211-EM-020	GW-17360-102912-DD-038
Sample Date:		4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/10/2011	9/22/2011	10/29/2012
Sample Type:									
Segment_Depth							(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	MW1-03	MW1-03	MW1-03
Sample Identification:		SW-017360-040615-MR-005	SW-017360-102015-MR-004	SW-017360-040516-MR-002	WG-017360-100416-MR-008	SW-017360-040517-MR-003	GW-17360-021011-DR-023	GW-17360-092211-EM-020	GW-17360-102912-DD-038
Sample Date:		4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/10/2011	9/22/2011	10/29/2012
Sample Type:									
Segment_Depth							(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		C-3	C-3	C-3	C-3	C-3	MW1-03	MW1-03	MW1-03
Sample Identification:		SW-017360-040615-MR-005	SW-017360-102015-MR-004	SW-017360-040516-MR-002	WG-017360-100416-MR-008	SW-017360-040517-MR-003	GW-17360-021011-DR-023	GW-17360-092211-EM-020	GW-17360-102912-DD-038
Sample Date:		4/6/2015	10/20/2015	4/5/2016	10/4/2016	4/5/2017	2/10/2011	9/22/2011	10/29/2012
Sample Type:									
Segment_Depth							(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW1-03	MW1-03	MW1-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		GW-17360-050713-BW-055	WG-17360-103113-MR-030	WG-017360-041714-MR-031	GW-17360-021011-DR-024	GW-17360-092211-EM-021	GW-17360-102912-DD-037	GW-17360-050713-BW-054	WG-17360-110513-EB-063
Sample Date:		5/7/2013	10/31/2013	4/17/2014	2/10/2011	9/22/2011	10/29/2012	5/7/2013	11/5/2013
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	10 UJ	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	1.1 J	10 UJ	5.0 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.33 J	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	0.44 J	1.5	0.19 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**140**[abc]	**320**[abc]	**170**[abc]	**6.9**[ab]	5.0	2.2	2.0	**7.0**[ab]
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.7	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW1-03	MW1-03	MW1-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		GW-17360-050713-BW-055	WG-17360-103113-MR-030	WG-017360-041714-MR-031	GW-17360-021011-DR-024	GW-17360-092211-EM-021	GW-17360-102912-DD-037	GW-17360-050713-BW-054	WG-17360-110513-EB-063
Sample Date:		5/7/2013	10/31/2013	4/17/2014	2/10/2011	9/22/2011	10/29/2012	5/7/2013	11/5/2013
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW1-03	MW1-03	MW1-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		GW-17360-050713-BW-055	WG-17360-103113-MR-030	WG-017360-041714-MR-031	GW-17360-021011-DR-024	GW-17360-092211-EM-021	GW-17360-102912-DD-037	GW-17360-050713-BW-054	WG-17360-110513-EB-063
Sample Date:		5/7/2013	10/31/2013	4/17/2014	2/10/2011	9/22/2011	10/29/2012	5/7/2013	11/5/2013
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW1-03	MW1-03	MW1-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		GW-17360-050713-BW-055	WG-17360-103113-MR-030	WG-017360-041714-MR-031	GW-17360-021011-DR-024	GW-17360-092211-EM-021	GW-17360-102912-DD-037	GW-17360-050713-BW-054	WG-17360-110513-EB-063
Sample Date:		5/7/2013	10/31/2013	4/17/2014	2/10/2011	9/22/2011	10/29/2012	5/7/2013	11/5/2013
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		WG-17360-110513-EB-064	WG-017360-041714-MR-028	WG-017360-100914-MR-019	WG-017360-040915-MR-022	WG-017360-102615-MR-024	WG-017360-041416-MR-034	WG-017360-041416-MR-035
Sample Date:		11/5/2013	4/17/2014	10/9/2014	4/9/2015	10/26/2015	4/14/2016	4/14/2016
Sample Type:		Duplicate						
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.41 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**6.8[ab]**	**5.5[ab]**	**5.8[ab]**	**6.7[ab]**	**6.5[ab]**	2.8	2.7
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.1	1.0 U	1.9	0.47 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		WG-17360-110513-EB-064	WG-017360-041714-MR-028	WG-017360-100914-MR-019	WG-017360-040915-MR-022	WG-017360-102615-MR-024	WG-017360-041416-MR-034	WG-017360-041416-MR-035
Sample Date:		11/5/2013	4/17/2014	10/9/2014	4/9/2015	10/26/2015	4/14/2016	4/14/2016
Sample Type:		Duplicate						
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		WG-17360-110513-EB-064	WG-017360-041714-MR-028	WG-017360-100914-MR-019	WG-017360-040915-MR-022	WG-017360-102615-MR-024	WG-017360-041416-MR-034	WG-017360-041416-MR-035
Sample Date:		11/5/2013	4/17/2014	10/9/2014	4/9/2015	10/26/2015	4/14/2016	4/14/2016
Sample Type:		Duplicate						
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03	MW2-03
Sample Identification:		WG-17360-110513-EB-064	WG-017360-041714-MR-028	WG-017360-100914-MR-019	WG-017360-040915-MR-022	WG-017360-102615-MR-024	WG-017360-041416-MR-034	WG-017360-041416-MR-035
Sample Date:		11/5/2013	4/17/2014	10/9/2014	4/9/2015	10/26/2015	4/14/2016	4/14/2016
Sample Type:		Duplicate						
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS	(22-27) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW3-03	MW3-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-101016-MR-022	WG-017360-041217-MR-039	GW-17360-020911-DR-001	GW-17360-092311-EM-038	GW-17360-020911-DR-008	GW-17360-092211-EM-014	WG-17360-050113-MR-011	WG-17360-102913-MR-013
Sample Date:		10/10/2016	4/12/2017	2/9/2011	9/23/2011	2/9/2011	9/22/2011	5/1/2013	10/29/2013
Sample Type:									
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	0.22 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	10 UJ	25 U	1.4 J	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	10 U	50 U	10 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U	50 U	10 U	50 U	50 U
Acetone	ug/L	50 U	50 U	25 U	10 UJ	25 U	10 UJ	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	0.30 J	1.0 U	0.42 J	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.96 J	0.50 J	1.3	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	0.98 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	0.23 J	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 UJ	10 U	10 UJ	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.44 J	0.35 J	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.6	4.0	**22[ab]**	**27 J[ab]**	1.0 U	0.46 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.9	1.7	0.58 J	0.28 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	2.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW3-03	MW3-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-101016-MR-022	WG-017360-041217-MR-039	GW-17360-020911-DR-001	GW-17360-092311-EM-038	GW-17360-020911-DR-008	GW-17360-092211-EM-014	WG-17360-050113-MR-011	WG-17360-102913-MR-013
Sample Date:		10/10/2016	4/12/2017	2/9/2011	9/23/2011	2/9/2011	9/22/2011	5/1/2013	10/29/2013
Sample Type:									
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	5.0 U	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	5.0 U	--	--	--	--	--
Acenaphthylene	ug/L	--	--	5.0 U	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	5.0 U	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	1.0 U	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	1.0 U	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	2.0 U	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	1.0 U	--	--	--	--	--
Fluorene	ug/L	--	--	5.0 U	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	2.0 U	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	5.0 U	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW3-03	MW3-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-101016-MR-022	WG-017360-041217-MR-039	GW-17360-020911-DR-001	GW-17360-092311-EM-038	GW-17360-020911-DR-008	GW-17360-092211-EM-014	WG-17360-050113-MR-011	WG-17360-102913-MR-013
Sample Date:		10/10/2016	4/12/2017	2/9/2011	9/23/2011	2/9/2011	9/22/2011	5/1/2013	10/29/2013
Sample Type:									
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	2.0 U	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	5.0 U	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	2.0 U	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	5.0 U	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	38.2 J	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	1.0 U	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	1.0 U	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	1.1 J	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	0.085 J	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	2.0 U	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	3.0 U	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	1.2 J	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	0.20 U	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	0.38 J	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	5.0 U	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	0.20 U	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	120000	--	--	--	--
Thallium	ug/L	--	--	1.0 U	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	4.0 U	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	20.0 U	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW2-03	MW2-03	MW3-03	MW3-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-101016-MR-022	WG-017360-041217-MR-039	GW-17360-020911-DR-001	GW-17360-092311-EM-038	GW-17360-020911-DR-008	GW-17360-092211-EM-014	WG-17360-050113-MR-011	WG-17360-102913-MR-013
Sample Date:		10/10/2016	4/12/2017	2/9/2011	9/23/2011	2/9/2011	9/22/2011	5/1/2013	10/29/2013
Sample Type:									
Segment_Depth		(22-27) ft BGS	(22-27) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-041514-MR-015	WG-017360-100814-MR-010	WG-017360-040615-MR-003	WG-017360-102115-MR-011	WG-017360-040716-MR-012	WG-017360-100516-MR-011	WG-017360-040617-MR-011
Sample Date:		4/15/2014	10/8/2014	4/6/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017
Sample Type:								
Segment_Depth		(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.62 J	1.0 U	1.0 U	0.50 J	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-041514-MR-015	WG-017360-100814-MR-010	WG-017360-040615-MR-003	WG-017360-102115-MR-011	WG-017360-040716-MR-012	WG-017360-100516-MR-011	WG-017360-040617-MR-011
Sample Date:		4/15/2014	10/8/2014	4/6/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017
Sample Type:								
Segment_Depth		(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-041514-MR-015	WG-017360-100814-MR-010	WG-017360-040615-MR-003	WG-017360-102115-MR-011	WG-017360-040716-MR-012	WG-017360-100516-MR-011	WG-017360-040617-MR-011
Sample Date:		4/15/2014	10/8/2014	4/6/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017
Sample Type:								
Segment_Depth		(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03	MW4-03
Sample Identification:		WG-017360-041514-MR-015	WG-017360-100814-MR-010	WG-017360-040615-MR-003	WG-017360-102115-MR-011	WG-017360-040716-MR-012	WG-017360-100516-MR-011	WG-017360-040617-MR-011
Sample Date:		4/15/2014	10/8/2014	4/6/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017
Sample Type:								
Segment_Depth		(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS	(52-57) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW6-03	MW6-03
Sample Identification:		GW-17360-021011-DR-014	GW-17360-092211-EM-016	GW-17360-102612-JV-033	WG-17360-050113-MR-006	WG-17360-102813-MR-005	WG-017360-041514-MR-013	GW-17360-021011-DR-011	GW-17360-092211-EM-006
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/28/2013	4/15/2014	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 U	5.0 U	25 U	25 U	25 U	25 U	10 U
2-Hexanone	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U	10 U
Acetone	ug/L	25 U	10 UJ	5.0 U	50 U	50 U	50 U	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	2.4	0.35 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	18	12	30	31	25	17	0.18 J	0.18 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	0.51 J	0.26 J	1.0 U	5.0 U	5.0 U	5.0 U	0.22 J	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.47 J	0.57 J	0.38 J	1.0 U	1.0 U	0.41 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.90 J	0.56 J	0.30 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW6-03	MW6-03
Sample Identification:		GW-17360-021011-DR-014	GW-17360-092211-EM-016	GW-17360-102612-JV-033	WG-17360-050113-MR-006	WG-17360-102813-MR-005	WG-017360-041514-MR-013	GW-17360-021011-DR-011	GW-17360-092211-EM-006
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/28/2013	4/15/2014	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW6-03	MW6-03
Sample Identification:		GW-17360-021011-DR-014	GW-17360-092211-EM-016	GW-17360-102612-JV-033	WG-17360-050113-MR-006	WG-17360-102813-MR-005	WG-017360-041514-MR-013	GW-17360-021011-DR-011	GW-17360-092211-EM-006
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/28/2013	4/15/2014	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW5-03	MW6-03	MW6-03
Sample Identification:		GW-17360-021011-DR-014	GW-17360-092211-EM-016	GW-17360-102612-JV-033	WG-17360-050113-MR-006	WG-17360-102813-MR-005	WG-017360-041514-MR-013	GW-17360-021011-DR-011	GW-17360-092211-EM-006
Sample Date:		2/10/2011	9/22/2011	10/26/2012	5/1/2013	10/28/2013	4/15/2014	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

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Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03
Sample Identification:		GW-17360-102512-JV-020	WG-17360-043013-MR-002	WG-17360-102813-MR-003	WG-017360-041414-MR-004	WG-017360-100714-MR-004	WG-017360-100714-MR-005	WG-017360-040815-MR-015	WG-017360-102015-MR-001
Sample Date:		10/25/2012	4/30/2013	10/28/2013	4/14/2014	10/7/2014	10/7/2014	4/8/2015	10/20/2015
Sample Type:							Duplicate		
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03
Sample Identification:		GW-17360-102512-JV-020	WG-17360-043013-MR-002	WG-17360-102813-MR-003	WG-017360-041414-MR-004	WG-017360-100714-MR-004	WG-017360-100714-MR-005	WG-017360-040815-MR-015	WG-017360-102015-MR-001
Sample Date:		10/25/2012	4/30/2013	10/28/2013	4/14/2014	10/7/2014	10/7/2014	4/8/2015	10/20/2015
Sample Type:							Duplicate		
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
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Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03
Sample Identification:		GW-17360-102512-JV-020	WG-17360-043013-MR-002	WG-17360-102813-MR-003	WG-017360-041414-MR-004	WG-017360-100714-MR-004	WG-017360-100714-MR-005	WG-017360-040815-MR-015	WG-017360-102015-MR-001
Sample Date:		10/25/2012	4/30/2013	10/28/2013	4/14/2014	10/7/2014	10/7/2014	4/8/2015	10/20/2015
Sample Type:							Duplicate		
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
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Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03	MW6-03
Sample Identification:		GW-17360-102512-JV-020	WG-17360-043013-MR-002	WG-17360-102813-MR-003	WG-017360-041414-MR-004	WG-017360-100714-MR-004	WG-017360-100714-MR-005	WG-017360-040815-MR-015	WG-017360-102015-MR-001
Sample Date:		10/25/2012	4/30/2013	10/28/2013	4/14/2014	10/7/2014	10/7/2014	4/8/2015	10/20/2015
Sample Type:							Duplicate		
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-017360-102015-MR-002	WG-017360-040616-MR-004	WG-017360-100416-MR-001	WG-017360-040517-MR-004	GW-17360-021111-DR-025	GW-17360-092211-EM-002	GW-17360-092211-EM-003	GW-17360-102512-JV-011
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/11/2011	9/22/2011	9/22/2011	10/25/2012
Sample Type:		Duplicate						Duplicate	
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.23 J	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	10 U	10 U	5.0 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	10 U	5.0 U
Acetone	ug/L	50 U	50 U	50 U	3.2 J	1.2 J	10 UJ	10 UJ	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.55 J	1.0 U	1.0 U	0.67 J	0.29 J	0.31 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.48 J	0.22 J	0.25 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.8	1.3	1.3	1.2
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	2.0 U	3.0 UJ
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-017360-102015-MR-002	WG-017360-040616-MR-004	WG-017360-100416-MR-001	WG-017360-040517-MR-004	GW-17360-021111-DR-025	GW-17360-092211-EM-002	GW-17360-092211-EM-003	GW-17360-102512-JV-011
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/11/2011	9/22/2011	9/22/2011	10/25/2012
Sample Type:		Duplicate						Duplicate	
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-017360-102015-MR-002	WG-017360-040616-MR-004	WG-017360-100416-MR-001	WG-017360-040517-MR-004	GW-17360-021111-DR-025	GW-17360-092211-EM-002	GW-17360-092211-EM-003	GW-17360-102512-JV-011
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/11/2011	9/22/2011	9/22/2011	10/25/2012
Sample Type:		Duplicate						Duplicate	
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW6-03	MW6-03	MW6-03	MW6-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-017360-102015-MR-002	WG-017360-040616-MR-004	WG-017360-100416-MR-001	WG-017360-040517-MR-004	GW-17360-021111-DR-025	GW-17360-092211-EM-002	GW-17360-092211-EM-003	GW-17360-102512-JV-011
Sample Date:		10/20/2015	4/6/2016	10/4/2016	4/5/2017	2/11/2011	9/22/2011	9/22/2011	10/25/2012
Sample Type:		Duplicate						Duplicate	
Segment_Depth		(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(13-18) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-17360-050113-MR-016	WG-17360-103013-MR-022	WG-017360-041614-MR-024	WG-017360-100814-MR-013	WG-017360-040815-MR-017	WG-017360-102215-MR-017	WG-017360-041316-MR-027	WG-017360-100616-MR-017
Sample Date:		5/1/2013	10/30/2013	4/16/2014	10/8/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:									
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.87 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.2	1.2	1.8	2.2	2.2	2.6	2.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-17360-050113-MR-016	WG-17360-103013-MR-022	WG-017360-041614-MR-024	WG-017360-100814-MR-013	WG-017360-040815-MR-017	WG-017360-102215-MR-017	WG-017360-041316-MR-027	WG-017360-100616-MR-017
Sample Date:		5/1/2013	10/30/2013	4/16/2014	10/8/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:									
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-17360-050113-MR-016	WG-17360-103013-MR-022	WG-017360-041614-MR-024	WG-017360-100814-MR-013	WG-017360-040815-MR-017	WG-017360-102215-MR-017	WG-017360-041316-MR-027	WG-017360-100616-MR-017
Sample Date:		5/1/2013	10/30/2013	4/16/2014	10/8/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:									
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03	MW7-03
Sample Identification:		WG-17360-050113-MR-016	WG-17360-103013-MR-022	WG-017360-041614-MR-024	WG-017360-100814-MR-013	WG-017360-040815-MR-017	WG-017360-102215-MR-017	WG-017360-041316-MR-027	WG-017360-100616-MR-017
Sample Date:		5/1/2013	10/30/2013	4/16/2014	10/8/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:									
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS	(36-41) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-017360-040717-MR-018	WG-017360-040717-MR-019	GW-17360-021011-DR-013	GW-17360-092211-EM-015	GW-17360-102512-JV-021	WG-17360-043013-MR-003	WG-17360-043013-MR-004	WG-17360-102813-MR-006
Sample Date:		4/7/2017	4/7/2017	2/10/2011	9/22/2011	10/25/2012	4/30/2013	4/30/2013	10/28/2013
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	10 U	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	25 U	10 UJ	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.18 J	1.0	4.1	13	13	4.8
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	0.91 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	0.47 J	0.35 J	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.30 J	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	2.2	1.0 U	0.17 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-017360-040717-MR-018	WG-017360-040717-MR-019	GW-17360-021011-DR-013	GW-17360-092211-EM-015	GW-17360-102512-JV-021	WG-17360-043013-MR-003	WG-17360-043013-MR-004	WG-17360-102813-MR-006
Sample Date:		4/7/2017	4/7/2017	2/10/2011	9/22/2011	10/25/2012	4/30/2013	4/30/2013	10/28/2013
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-017360-040717-MR-018	WG-017360-040717-MR-019	GW-17360-021011-DR-013	GW-17360-092211-EM-015	GW-17360-102512-JV-021	WG-17360-043013-MR-003	WG-17360-043013-MR-004	WG-17360-102813-MR-006
Sample Date:		4/7/2017	4/7/2017	2/10/2011	9/22/2011	10/25/2012	4/30/2013	4/30/2013	10/28/2013
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW7-03	MW7-03	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-017360-040717-MR-018	WG-017360-040717-MR-019	GW-17360-021011-DR-013	GW-17360-092211-EM-015	GW-17360-102512-JV-021	WG-17360-043013-MR-003	WG-17360-043013-MR-004	WG-17360-102813-MR-006
Sample Date:		4/7/2017	4/7/2017	2/10/2011	9/22/2011	10/25/2012	4/30/2013	4/30/2013	10/28/2013
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(36-41) ft BGS	(36-41) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-17360-102813-MR-007	WG-017360-041514-MR-012	WG-017360-100914-MR-017	WG-017360-100914-MR-018	WG-017360-040715-MR-010	WG-017360-102115-MR-009	WG-017360-040616-MR-009
Sample Date:		10/28/2013	4/15/2014	10/9/2014	10/9/2014	4/7/2015	10/21/2015	4/6/2016
Sample Type:		Duplicate			Duplicate			
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	4.9	17	1.7	1.7	1.0 U	2.1 U	5.5
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-17360-102813-MR-007	WG-017360-041514-MR-012	WG-017360-100914-MR-017	WG-017360-100914-MR-018	WG-017360-040715-MR-010	WG-017360-102115-MR-009	WG-017360-040616-MR-009
Sample Date:		10/28/2013	4/15/2014	10/9/2014	10/9/2014	4/7/2015	10/21/2015	4/6/2016
Sample Type:		Duplicate			Duplicate			
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-17360-102813-MR-007	WG-017360-041514-MR-012	WG-017360-100914-MR-017	WG-017360-100914-MR-018	WG-017360-040715-MR-010	WG-017360-102115-MR-009	WG-017360-040616-MR-009
Sample Date:		10/28/2013	4/15/2014	10/9/2014	10/9/2014	4/7/2015	10/21/2015	4/6/2016
Sample Type:		Duplicate			Duplicate			
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04	MW8-04
Sample Identification:		WG-17360-102813-MR-007	WG-017360-041514-MR-012	WG-017360-100914-MR-017	WG-017360-100914-MR-018	WG-017360-040715-MR-010	WG-017360-102115-MR-009	WG-017360-040616-MR-009
Sample Date:		10/28/2013	4/15/2014	10/9/2014	10/9/2014	4/7/2015	10/21/2015	4/6/2016
Sample Type:		Duplicate			Duplicate			
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04
Sample Identification:		WG-017360-100416-MR-009	WG-017360-040617-MR-010	GW-17360-020911-DR-007	GW-17360-092211-EM-010	GW-17360-102612-JV-034	WG-17360-050113-MR-010	WG-17360-102913-MR-014	WG-017360-041514-MR-011
Sample Date:		10/4/2016	4/6/2017	2/9/2011	9/22/2011	10/26/2012	5/1/2013	10/29/2013	4/15/2014
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	10 U	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	25 U	10 UJ	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	4.2	3.0	8.5	10	1.0 U	1.0	0.81 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 UJ	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 J	0.24 J	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	0.48 J	0.42 J	0.25 J	1.0 U	1.0 U	0.41 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	0.49 J	0.28 J	0.22 J	1.0 U	1.0 U	0.34 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04
Sample Identification:		WG-017360-100416-MR-009	WG-017360-040617-MR-010	GW-17360-020911-DR-007	GW-17360-092211-EM-010	GW-17360-102612-JV-034	WG-17360-050113-MR-010	WG-17360-102913-MR-014	WG-017360-041514-MR-011
Sample Date:		10/4/2016	4/6/2017	2/9/2011	9/22/2011	10/26/2012	5/1/2013	10/29/2013	4/15/2014
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04
Sample Identification:		WG-017360-100416-MR-009	WG-017360-040617-MR-010	GW-17360-020911-DR-007	GW-17360-092211-EM-010	GW-17360-102612-JV-034	WG-17360-050113-MR-010	WG-17360-102913-MR-014	WG-017360-041514-MR-011
Sample Date:		10/4/2016	4/6/2017	2/9/2011	9/22/2011	10/26/2012	5/1/2013	10/29/2013	4/15/2014
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW8-04	MW8-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04
Sample Identification:		WG-017360-100416-MR-009	WG-017360-040617-MR-010	GW-17360-020911-DR-007	GW-17360-092211-EM-010	GW-17360-102612-JV-034	WG-17360-050113-MR-010	WG-17360-102913-MR-014	WG-017360-041514-MR-011
Sample Date:		10/4/2016	4/6/2017	2/9/2011	9/22/2011	10/26/2012	5/1/2013	10/29/2013	4/15/2014
Sample Type:									
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW10-04	MW10-04
Sample Identification:		WG-017360-100914-MR-016	WG-017360-040715-MR-009	WG-017360-102115-MR-010	WG-017360-040716-MR-013	WG-017360-100516-MR-010	WG-017360-040617-MR-009	GW-17360-021011-DR-019	GW-17360-092211-EM-013
Sample Date:		10/9/2014	4/7/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 J	0.26 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 UJ
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	10 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.8	3.8	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.74 J	1.0 U	1.0 U	19	38	3.6	1.0 U	0.24 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.9	1.6
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.60 J	0.33 J
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.1	2.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW10-04	MW10-04
Sample Identification:		WG-017360-100914-MR-016	WG-017360-040715-MR-009	WG-017360-102115-MR-010	WG-017360-040716-MR-013	WG-017360-100516-MR-010	WG-017360-040617-MR-009	GW-17360-021011-DR-019	GW-17360-092211-EM-013
Sample Date:		10/9/2014	4/7/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW10-04	MW10-04
Sample Identification:		WG-017360-100914-MR-016	WG-017360-040715-MR-009	WG-017360-102115-MR-010	WG-017360-040716-MR-013	WG-017360-100516-MR-010	WG-017360-040617-MR-009	GW-17360-021011-DR-019	GW-17360-092211-EM-013
Sample Date:		10/9/2014	4/7/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW9-04	MW10-04	MW10-04
Sample Identification:		WG-017360-100914-MR-016	WG-017360-040715-MR-009	WG-017360-102115-MR-010	WG-017360-040716-MR-013	WG-017360-100516-MR-010	WG-017360-040617-MR-009	GW-17360-021011-DR-019	GW-17360-092211-EM-013
Sample Date:		10/9/2014	4/7/2015	10/21/2015	4/7/2016	10/5/2016	4/6/2017	2/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(43-48) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04
Sample Identification:		GW-17360-102612-JV-025	WG-17360-050213-MR-019	WG-17360-103013-MR-020	WG-017360-041514-MR-014	WG-017360-100814-MR-009	WG-017360-040715-MR-007	WG-017360-040715-MR-008	WG-017360-102115-MR-012
Sample Date:		10/26/2012	5/2/2013	10/30/2013	4/15/2014	10/8/2014	4/7/2015	4/7/2015	10/21/2015
Sample Type:								Duplicate	
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.53 J	1.0 U	0.82 J	0.66 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.83 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	0.78 J	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	4.1	4.3	4.3	3.4	3.6	2.2	2.4	3.1
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04
Sample Identification:		GW-17360-102612-JV-025	WG-17360-050213-MR-019	WG-17360-103013-MR-020	WG-017360-041514-MR-014	WG-017360-100814-MR-009	WG-017360-040715-MR-007	WG-017360-040715-MR-008	WG-017360-102115-MR-012
Sample Date:		10/26/2012	5/2/2013	10/30/2013	4/15/2014	10/8/2014	4/7/2015	4/7/2015	10/21/2015
Sample Type:								Duplicate	
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04
Sample Identification:		GW-17360-102612-JV-025	WG-17360-050213-MR-019	WG-17360-103013-MR-020	WG-017360-041514-MR-014	WG-017360-100814-MR-009	WG-017360-040715-MR-007	WG-017360-040715-MR-008	WG-017360-102115-MR-012
Sample Date:		10/26/2012	5/2/2013	10/30/2013	4/15/2014	10/8/2014	4/7/2015	4/7/2015	10/21/2015
Sample Type:								Duplicate	
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04	MW10-04
Sample Identification:		GW-17360-102612-JV-025	WG-17360-050213-MR-019	WG-17360-103013-MR-020	WG-017360-041514-MR-014	WG-017360-100814-MR-009	WG-017360-040715-MR-007	WG-017360-040715-MR-008	WG-017360-102115-MR-012
Sample Date:		10/26/2012	5/2/2013	10/30/2013	4/15/2014	10/8/2014	4/7/2015	4/7/2015	10/21/2015
Sample Type:								Duplicate	
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-017360-040716-MR-014	WG-017360-100516-MR-012	WG-017360-040617-MR-012	GW-17360-021011-DR-020	GW-17360-021011-DR-021	GW-17360-092211-EM-011	GW-17360-102612-JV-024	WG-17360-050213-MR-021
Sample Date:		4/7/2016	10/5/2016	4/6/2017	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/2/2013
Sample Type:						Duplicate			
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	10 U	5.0 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	10 U	5.0 U	50 U
Acetone	ug/L	50 U	1.5 J	50 U	25 U	1.3 J	10 UJ	5.0 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	0.15 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.1	1.2	1.1	32	36	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	0.44 J	0.52 J	5.0 U	0.38 J	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.62 J	0.62 J	0.41 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.8	2.1	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.2	3.0	3.4	2.5	2.7	1.0	2.4	1.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	0.32 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-017360-040716-MR-014	WG-017360-100516-MR-012	WG-017360-040617-MR-012	GW-17360-021011-DR-020	GW-17360-021011-DR-021	GW-17360-092211-EM-011	GW-17360-102612-JV-024	WG-17360-050213-MR-021
Sample Date:		4/7/2016	10/5/2016	4/6/2017	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/2/2013
Sample Type:						Duplicate			
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-017360-040716-MR-014	WG-017360-100516-MR-012	WG-017360-040617-MR-012	GW-17360-021011-DR-020	GW-17360-021011-DR-021	GW-17360-092211-EM-011	GW-17360-102612-JV-024	WG-17360-050213-MR-021
Sample Date:		4/7/2016	10/5/2016	4/6/2017	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/2/2013
Sample Type:						Duplicate			
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW10-04	MW10-04	MW10-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-017360-040716-MR-014	WG-017360-100516-MR-012	WG-017360-040617-MR-012	GW-17360-021011-DR-020	GW-17360-021011-DR-021	GW-17360-092211-EM-011	GW-17360-102612-JV-024	WG-17360-050213-MR-021
Sample Date:		4/7/2016	10/5/2016	4/6/2017	2/10/2011	2/10/2011	9/22/2011	10/26/2012	5/2/2013
Sample Type:						Duplicate			
Segment_Depth		(33-38) ft BGS	(33-38) ft BGS	(33-38) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25	AOI 25	AOI 25	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-17360-103013-MR-018	WG-017360-041414-MR-008	WG-017360-100714-MR-008	WG-017360-040615-MR-001	WG-017360-102215-MR-015	WG-017360-040716-MR-016	WG-017360-100516-MR-014
Sample Date:		10/30/2013	4/14/2014	10/7/2014	4/6/2015	10/22/2015	4/7/2016	10/5/2016
Sample Type:								
Segment_Depth		(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.76 J	1.0 U	0.78 J	1.0 U	1.2 U	1.0 U	1.7 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.7	2.3	1.5	1.9	2.3	1.2	1.2
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-17360-103013-MR-018	WG-017360-041414-MR-008	WG-017360-100714-MR-008	WG-017360-040615-MR-001	WG-017360-102215-MR-015	WG-017360-040716-MR-016	WG-017360-100516-MR-014
Sample Date:		10/30/2013	4/14/2014	10/7/2014	4/6/2015	10/22/2015	4/7/2016	10/5/2016
Sample Type:								
Segment_Depth		(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-17360-103013-MR-018	WG-017360-041414-MR-008	WG-017360-100714-MR-008	WG-017360-040615-MR-001	WG-017360-102215-MR-015	WG-017360-040716-MR-016	WG-017360-100516-MR-014
Sample Date:		10/30/2013	4/14/2014	10/7/2014	4/6/2015	10/22/2015	4/7/2016	10/5/2016
Sample Type:								
Segment_Depth		(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04	MW11D-04
Sample Identification:		WG-17360-103013-MR-018	WG-017360-041414-MR-008	WG-017360-100714-MR-008	WG-017360-040615-MR-001	WG-017360-102215-MR-015	WG-017360-040716-MR-016	WG-017360-100516-MR-014
Sample Date:		10/30/2013	4/14/2014	10/7/2014	4/6/2015	10/22/2015	4/7/2016	10/5/2016
Sample Type:								
Segment_Depth		(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS	(40-45) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05
Sample Identification:		WG-017360-040617-MR-014	GW-17360-021011-DR-022	GW-17360-092211-EM-012	GW-17360-102612-JV-023	WG-17360-050213-MR-020	WG-17360-103013-MR-019	WG-017360-041414-MR-007	WG-017360-100714-MR-007
Sample Date:		4/6/2017	2/10/2011	9/22/2011	10/26/2012	5/2/2013	10/30/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth		(40-45) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	0.17 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	10 U	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	10 U	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	1.2 J	10 UJ	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.29 J	0.28 J	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05
Sample Identification:		WG-017360-040617-MR-014	GW-17360-021011-DR-022	GW-17360-092211-EM-012	GW-17360-102612-JV-023	WG-17360-050213-MR-020	WG-17360-103013-MR-019	WG-017360-041414-MR-007	WG-017360-100714-MR-007
Sample Date:		4/6/2017	2/10/2011	9/22/2011	10/26/2012	5/2/2013	10/30/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth		(40-45) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05
Sample Identification:		WG-017360-040617-MR-014	GW-17360-021011-DR-022	GW-17360-092211-EM-012	GW-17360-102612-JV-023	WG-17360-050213-MR-020	WG-17360-103013-MR-019	WG-017360-041414-MR-007	WG-017360-100714-MR-007
Sample Date:		4/6/2017	2/10/2011	9/22/2011	10/26/2012	5/2/2013	10/30/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth		(40-45) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11D-04	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05
Sample Identification:		WG-017360-040617-MR-014	GW-17360-021011-DR-022	GW-17360-092211-EM-012	GW-17360-102612-JV-023	WG-17360-050213-MR-020	WG-17360-103013-MR-019	WG-017360-041414-MR-007	WG-017360-100714-MR-007
Sample Date:		4/6/2017	2/10/2011	9/22/2011	10/26/2012	5/2/2013	10/30/2013	4/14/2014	10/7/2014
Sample Type:									
Segment_Depth		(40-45) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW13-04	MW13-04	MW13-04
Sample Identification:		WG-017360-040615-MR-002	WG-017360-102215-MR-014	WG-017360-040716-MR-015	WG-017360-100516-MR-013	WG-017360-040617-MR-013	GW-17360-021411-JY-040	GW-17360-021511-JY-040	GW-17360-093011-EM-051
Sample Date:		4/6/2015	10/22/2015	4/7/2016	10/5/2016	4/6/2017	2/15/2011	2/15/2011	9/30/2011
Sample Type:									
Segment_Depth		(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	--	25 U	10 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	--	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	--	50 U	10 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	--	25 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	0.31 J	0.24 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	0.34 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	0.22 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	--	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW13-04	MW13-04	MW13-04
Sample Identification:		WG-017360-040615-MR-002	WG-017360-102215-MR-014	WG-017360-040716-MR-015	WG-017360-100516-MR-013	WG-017360-040617-MR-013	GW-17360-021411-JY-040	GW-17360-021511-JY-040	GW-17360-093011-EM-051
Sample Date:		4/6/2015	10/22/2015	4/7/2016	10/5/2016	4/6/2017	2/15/2011	2/15/2011	9/30/2011
Sample Type:									
Segment_Depth		(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	5.0 U	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	5.0 U	--
Acenaphthylene	ug/L	--	--	--	--	--	--	5.0 U	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	5.0 U	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	1.0 U	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	1.0 U	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	1.0 U	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	1.0 U	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	2.0 U	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	--
Fluorene	ug/L	--	--	--	--	--	--	5.0 U	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	2.0 U	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	5.0 U	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW13-04	MW13-04	MW13-04
Sample Identification:		WG-017360-040615-MR-002	WG-017360-102215-MR-014	WG-017360-040716-MR-015	WG-017360-100516-MR-013	WG-017360-040617-MR-013	GW-17360-021411-JY-040	GW-17360-021511-JY-040	GW-17360-093011-EM-051
Sample Date:		4/6/2015	10/22/2015	4/7/2016	10/5/2016	4/6/2017	2/15/2011	2/15/2011	9/30/2011
Sample Type:									
Segment_Depth		(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	2.0 U	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	2.0 U	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	0.66 J	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	57.6 J	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	1.0 U	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	1.0 U	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	3.8 J	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	0.13 J	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	2.0 U	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	3.0 U	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	8.0 J	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	0.20 U	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	0.76 J	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	5.0 U	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	0.20 U	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	1.0 U	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	4.0 U	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	20.0 U	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW11S-05	MW13-04	MW13-04	MW13-04
Sample Identification:		WG-017360-040615-MR-002	WG-017360-102215-MR-014	WG-017360-040716-MR-015	WG-017360-100516-MR-013	WG-017360-040617-MR-013	GW-17360-021411-JY-040	GW-17360-021511-JY-040	GW-17360-093011-EM-051
Sample Date:		4/6/2015	10/22/2015	4/7/2016	10/5/2016	4/6/2017	2/15/2011	2/15/2011	9/30/2011
Sample Type:									
Segment_Depth		(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(5-10) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW13-04	MW13-04	MW13-04	MW13-04	MW13-04	MW14-04	MW14-04	MW15-04
Sample Identification:		GW-17360-102312-DD-003	WG-17360-050313-MR-029	WG-17360-110513-EB-065	WG-017360-042314-MR-066	WG-017360-042314-MR-067	GW-17360-021411-JY-035	GW-17360-092311-EM-034	GW-17360-031011-DR-210
Sample Date:		10/23/2012	5/3/2013	11/5/2013	4/23/2014	4/23/2014	2/14/2011	9/23/2011	3/10/2011
Sample Type:						Duplicate			
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.6
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	10 UJ	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	10 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	10 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	25 U	10 UJ	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	0.85 J	0.83 J	1.8	1.1	0.68 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0	2.3	1.3
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW13-04	MW13-04	MW13-04	MW13-04	MW13-04	MW14-04	MW14-04	MW15-04
Sample Identification:		GW-17360-102312-DD-003	WG-17360-050313-MR-029	WG-17360-110513-EB-065	WG-017360-042314-MR-066	WG-017360-042314-MR-067	GW-17360-021411-JY-035	GW-17360-092311-EM-034	GW-17360-031011-DR-210
Sample Date:		10/23/2012	5/3/2013	11/5/2013	4/23/2014	4/23/2014	2/14/2011	9/23/2011	3/10/2011
Sample Type:						Duplicate			
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Acenaphthylene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	2.0 UJ	--	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	1.0 UJ	--	1.0 U
Fluorene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	2.0 UJ	--	2.0 U
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW13-04	MW13-04	MW13-04	MW13-04	MW13-04	MW14-04	MW14-04	MW15-04
Sample Identification:		GW-17360-102312-DD-003	WG-17360-050313-MR-029	WG-17360-110513-EB-065	WG-017360-042314-MR-066	WG-017360-042314-MR-067	GW-17360-021411-JY-035	GW-17360-092311-EM-034	GW-17360-031011-DR-210
Sample Date:		10/23/2012	5/3/2013	11/5/2013	4/23/2014	4/23/2014	2/14/2011	9/23/2011	3/10/2011
Sample Type:						Duplicate			
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	2.0 UJ	--	2.0 U
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	5.0 UJ	--	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	2.0 U	--	2.0 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	0.40 J	--	0.51 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	53.4 J	--	86.7 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	5.0 U	--	0.81 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	7.0 U	--	0.12 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	2.0 U	--	2.0 U
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	3.0 U	--	0.74 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	15.0 U	--	15.0 U
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	0.20 U	--	0.20 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	20.0 U	--	20.0 U
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	5.0 U	--	5.0 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	0.20 U	--	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	1.0 U	--	1.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	4.0 U	--	4.0 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	20.0 U	--	20.0 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW13-04	MW13-04	MW13-04	MW13-04	MW13-04	MW14-04	MW14-04	MW15-04
Sample Identification:		GW-17360-102312-DD-003	WG-17360-050313-MR-029	WG-17360-110513-EB-065	WG-017360-042314-MR-066	WG-017360-042314-MR-067	GW-17360-021411-JY-035	GW-17360-092311-EM-034	GW-17360-031011-DR-210
Sample Date:		10/23/2012	5/3/2013	11/5/2013	4/23/2014	4/23/2014	2/14/2011	9/23/2011	3/10/2011
Sample Type:						Duplicate			
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04
Sample Identification:		GW-17360-092311-EM-027	GW-17360-102512-EB-022	WG-17360-050613-EB-041	WG-17360-110113-EB-035	WG-017360-041814-MR-043	WG-017360-101314-MR-032	WG-017360-041415-MR-042	WG-017360-102715-MR-031
Sample Date:		9/23/2011	10/25/2012	5/6/2013	11/1/2013	4/18/2014	10/13/2014	4/14/2015	10/27/2015
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	4.5	4.9	3.7	4.0	3.5	2.3	2.0	1.4
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 UJ	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	10 UJ	5.0 U	3.9 J	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.27 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 UJ	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.2	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.54 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04
Sample Identification:		GW-17360-092311-EM-027	GW-17360-102512-EB-022	WG-17360-050613-EB-041	WG-17360-110113-EB-035	WG-017360-041814-MR-043	WG-017360-101314-MR-032	WG-017360-041415-MR-042	WG-017360-102715-MR-031
Sample Date:		9/23/2011	10/25/2012	5/6/2013	11/1/2013	4/18/2014	10/13/2014	4/14/2015	10/27/2015
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04
Sample Identification:		GW-17360-092311-EM-027	GW-17360-102512-EB-022	WG-17360-050613-EB-041	WG-17360-110113-EB-035	WG-017360-041814-MR-043	WG-017360-101314-MR-032	WG-017360-041415-MR-042	WG-017360-102715-MR-031
Sample Date:		9/23/2011	10/25/2012	5/6/2013	11/1/2013	4/18/2014	10/13/2014	4/14/2015	10/27/2015
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04	MW15-04
Sample Identification:		GW-17360-092311-EM-027	GW-17360-102512-EB-022	WG-17360-050613-EB-041	WG-17360-110113-EB-035	WG-017360-041814-MR-043	WG-017360-101314-MR-032	WG-017360-041415-MR-042	WG-017360-102715-MR-031
Sample Date:		9/23/2011	10/25/2012	5/6/2013	11/1/2013	4/18/2014	10/13/2014	4/14/2015	10/27/2015
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041816-MR-042	WG-017360-101016-MR-027	WG-017360-041117-MR-031	GW-17360-020911-DR-003	GW-17360-092311-EM-026	GW-17360-103012-JV-047	WG-17360-050213-MR-026	WG-17360-102913-MR-011
Sample Date:		4/18/2016	10/10/2016	4/11/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.1	0.95 J	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.7 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	17 UJ	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	17 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	17 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	25 U	17 UJ	5.0 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.7 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	8.4 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.7 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.2	1.5	1.1	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.7 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	29	31	**72[ab]**	65	57
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.7 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.7 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.7 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	17 UJ	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	8.4 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	8.4 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	**27 J[ab]**	**19[ab]**	**60[ab]**	**79[abc]**	**92[abc]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.66 J	0.62 J	0.97 J	1.2	1.2
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.39 J	1.0 U	1.0 U	**5.6[ab]**	3.2	**5.9[ab]**	**7.6[ab]**	**9.4[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.7 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.3 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041816-MR-042	WG-017360-101016-MR-027	WG-017360-041117-MR-031	GW-17360-020911-DR-003	GW-17360-092311-EM-026	GW-17360-103012-JV-047	WG-17360-050213-MR-026	WG-17360-102913-MR-011
Sample Date:		4/18/2016	10/10/2016	4/11/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041816-MR-042	WG-017360-101016-MR-027	WG-017360-041117-MR-031	GW-17360-020911-DR-003	GW-17360-092311-EM-026	GW-17360-103012-JV-047	WG-17360-050213-MR-026	WG-17360-102913-MR-011
Sample Date:		4/18/2016	10/10/2016	4/11/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW15-04	MW15-04	MW15-04	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041816-MR-042	WG-017360-101016-MR-027	WG-017360-041117-MR-031	GW-17360-020911-DR-003	GW-17360-092311-EM-026	GW-17360-103012-JV-047	WG-17360-050213-MR-026	WG-17360-102913-MR-011
Sample Date:		4/18/2016	10/10/2016	4/11/2017	2/9/2011	9/23/2011	10/30/2012	5/2/2013	10/29/2013
Sample Type:									
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041614-MR-020	WG-017360-101314-MR-027	WG-017360-101314-MR-028	WG-017360-040815-MR-020	WG-017360-102215-MR-019	WG-017360-041316-MR-029	WG-017360-100616-MR-016
Sample Date:		4/16/2014	10/13/2014	10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:				Duplicate				
Segment_Depth		(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	51	48	48	49	69	**89[ab]**	**82[ab]**
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**92 J[abc]**	**78[abc]**	**78[abc]**	**100[abc]**	**160[abc]**	**130[abc]**	**130[abc]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.1	1.0	1.3	1.7	2.2	1.7	2.0
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**8.0[ab]**	**7.1[ab]**	**7.5[ab]**	**10[ab]**	**8.6[ab]**	**7.2[ab]**	**6.8[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041614-MR-020	WG-017360-101314-MR-027	WG-017360-101314-MR-028	WG-017360-040815-MR-020	WG-017360-102215-MR-019	WG-017360-041316-MR-029	WG-017360-100616-MR-016
Sample Date:		4/16/2014	10/13/2014	10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:				Duplicate				
Segment_Depth		(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041614-MR-020	WG-017360-101314-MR-027	WG-017360-101314-MR-028	WG-017360-040815-MR-020	WG-017360-102215-MR-019	WG-017360-041316-MR-029	WG-017360-100616-MR-016
Sample Date:		4/16/2014	10/13/2014	10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:				Duplicate				
Segment_Depth		(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06	MW17-06
Sample Identification:		WG-017360-041614-MR-020	WG-017360-101314-MR-027	WG-017360-101314-MR-028	WG-017360-040815-MR-020	WG-017360-102215-MR-019	WG-017360-041316-MR-029	WG-017360-100616-MR-016
Sample Date:		4/16/2014	10/13/2014	10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016
Sample Type:				Duplicate				
Segment_Depth		(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS	(51-56) ft BGS
AOI		AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3	AOI 25, AOI 3
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW18-10	MW18-10	MW18-10	MW18-10	MW19-11	MW19-11	MW19-11
Sample Identification:		WG-017360-040717-MR-017	GW-17360-021411-JY-036	GW-17360-021411-JY-037	GW-17360-092911-EM-042	GW-17360-092911-EM-043	GW-17360-030911-DR-201	GW-17360-031611-DR-201	GW-17360-092211-EM-017
Sample Date:		4/7/2017	2/14/2011	2/14/2011	9/29/2011	9/29/2011	3/9/2011	3/16/2011	9/22/2011
Sample Type:				Duplicate		Duplicate			
Segment_Depth		(51-56) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS
AOI		AOI 25, AOI 3	AOI 6	AOI 6	AOI 6	AOI 6	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	--	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	--	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	10 U	10 U	25 U	--	10 U
2-Hexanone	ug/L	50 U	50 U	50 U	10 U	10 U	50 U	--	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	10 U	10 U	50 U	--	10 U
Acetone	ug/L	50 U	25 U	25 U	10 U	10 U	25 U	--	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	--	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Carbon disulfide	ug/L	5.0 U	0.69 J	0.58 J	5.0 UJ	5.0 UJ	5.0 U	--	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.5	--	0.86 J
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
cis-1,2-Dichloroethene	ug/L	67	0.94 J	0.98 J	1.0 U	1.0 U	1.0 U	--	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	--	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	--	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	--	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	0.25 J	0.27 J	0.17 J	5.0 U	5.0 U	--	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Tetrachloroethene	ug/L	**92**[abc]	0.51 J	0.50 J	0.70 J	0.71 J	1.3	--	0.82 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
trans-1,2-Dichloroethene	ug/L	1.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	--	1.0 U
Trichloroethene	ug/L	**5.7**[ab]	0.51 J	0.54 J	1.0 U	1.0 U	0.50 J	--	0.36 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	2.0 U	2.0 U	3.0 U	--	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	7.6 U	7.6 U	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	19 U	19 U	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	38 U	38 U	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	9.5 U	9.5 U	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW18-10	MW18-10	MW18-10	MW18-10	MW19-11	MW19-11	MW19-11
Sample Identification:		WG-017360-040717-MR-017	GW-17360-021411-JY-036	GW-17360-021411-JY-037	GW-17360-092911-EM-042	GW-17360-092911-EM-043	GW-17360-030911-DR-201	GW-17360-031611-DR-201	GW-17360-092211-EM-017
Sample Date:		4/7/2017	2/14/2011	2/14/2011	9/29/2011	9/29/2011	3/9/2011	3/16/2011	9/22/2011
Sample Type:				Duplicate		Duplicate			
Segment_Depth		(51-56) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS
AOI		AOI 25, AOI 3	AOI 6	AOI 6	AOI 6	AOI 6	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2-Chlorophenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2-Methylnaphthalene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
2-Methylphenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
2-Nitroaniline	ug/L	--	--	--	38 U	38 U	--	--	--
2-Nitrophenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
3&4-Methylphenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	1.9 U	1.9 U	--	--	--
3-Nitroaniline	ug/L	--	--	--	38 U	38 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	38 U	38 U	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
4-Chloroaniline	ug/L	--	--	--	19 U	19 U	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	38 U	38 U	--	--	--
4-Nitrophenol	ug/L	--	--	--	38 U	38 U	--	--	--
Acenaphthene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Acenaphthylene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Acetophenone	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Anthracene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Atrazine	ug/L	--	--	--	5.7 U	5.7 U	--	--	--
Benzaldehyde	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Benzo(a)anthracene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Benzo(a)pyrene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Benzo(b)fluoranthene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Benzo(g,h,i)perylene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Benzo(k)fluoranthene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	1.9 U	1.9 U	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Caprolactam	ug/L	--	--	--	19 U	19 U	--	--	--
Carbazole	ug/L	--	--	--	19 U	19 U	--	--	--
Chrysene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Dibenz(a,h)anthracene	ug/L	--	2.0 U	2.0 U	3.8 U	3.8 U	2.0 U	--	--
Dibenzofuran	ug/L	--	--	--	7.6 U	7.6 U	--	--	--
Diethyl phthalate	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Dimethyl phthalate	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Fluoranthene	ug/L	--	1.0 U	1.0 U	1.9 U	1.9 U	1.0 U	--	--
Fluorene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Hexachlorobenzene	ug/L	--	--	--	0.38 U	0.38 U	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	1.9 U	1.9 U	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Hexachloroethane	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	2.0 U	2.0 U	3.8 U	3.8 U	2.0 U	--	--
Isophorone	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Naphthalene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Nitrobenzene	ug/L	--	--	--	5.7 U	5.7 U	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Pentachlorophenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW18-10	MW18-10	MW18-10	MW18-10	MW19-11	MW19-11	MW19-11
Sample Identification:		WG-017360-040717-MR-017	GW-17360-021411-JY-036	GW-17360-021411-JY-037	GW-17360-092911-EM-042	GW-17360-092911-EM-043	GW-17360-030911-DR-201	GW-17360-031611-DR-201	GW-17360-092211-EM-017
Sample Date:		4/7/2017	2/14/2011	2/14/2011	9/29/2011	9/29/2011	3/9/2011	3/16/2011	9/22/2011
Sample Type:				Duplicate		Duplicate			
Segment_Depth		(51-56) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS
AOI		AOI 25, AOI 3	AOI 6	AOI 6	AOI 6	AOI 6	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	2.0 U	2.0 U	3.8 U	3.8 U	2.0 U	--	--
Phenol	ug/L	--	--	--	9.5 U	9.5 U	--	--	--
Pyrene	ug/L	--	5.0 U	5.0 U	9.5 U	9.5 U	5.0 U	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	2.7 J	2.8 J	1.6 J	1.6 J	5.0 U	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	102	99.2 J	76 J	84 J	32.0 J	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	5.0 U	5.0 U	10 U	10 U	1.2 J	1.3 J	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	20 UJ	20 U	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	5 UJ	5 U	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	0.49 J	0.41 J	0.37 J	0.40 J	0.083 J	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	2.0 U	2.0 U	0.30 J	4.0 U	2.0 U	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	**356[ab]**	**335[ab]**	**650[ab]**	**710[ab]**	15.0 U	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	0.20 U	0.20 U	40 U	40 U	0.20 U	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	0.73 J	0.64 J	1.4 J	1.5 J	20.0 U	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	20.0 U	20.0 U	50 U	50 U	20.0 U	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW17-06	MW18-10	MW18-10	MW18-10	MW18-10	MW19-11	MW19-11	MW19-11
Sample Identification:		WG-017360-040717-MR-017	GW-17360-021411-JY-036	GW-17360-021411-JY-037	GW-17360-092911-EM-042	GW-17360-092911-EM-043	GW-17360-030911-DR-201	GW-17360-031611-DR-201	GW-17360-092211-EM-017
Sample Date:		4/7/2017	2/14/2011	2/14/2011	9/29/2011	9/29/2011	3/9/2011	3/16/2011	9/22/2011
Sample Type:				Duplicate		Duplicate			
Segment_Depth		(51-56) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(16-26) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS
AOI		AOI 25, AOI 3	AOI 6	AOI 6	AOI 6	AOI 6	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	28 J	100 U	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	1000 J	860 J	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	1200 J	1100 J	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW20-11	MW20-11	MW21-11	MW21-11	MW22-11	MW22-11	MW23-11	MW23-11
Sample Identification:		GW-17360-030911-DR-200	GW-17360-092311-EM-035	GW-17360-030911-DR-202	GW-17360-092311-EM-039	GW-17360-031011-DR-205	GW-17360-092311-EM-036	GW-17360-031011-DR-208	GW-17360-092211-EM-018
Sample Date:		3/9/2011	9/23/2011	3/9/2011	9/23/2011	3/10/2011	9/23/2011	3/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(16.5-21.5) ft BGS	(16.5-21.5) ft BGS	(21.5-26.5) ft BGS	(21.5-26.5) ft BGS	(20-25) ft BGS	(20-25) ft BGS
AOI		AOI 11	AOI 11	AOI 15.3	AOI 15.3	AOI 16.1	AOI 16.1	AOI 16.3	AOI 16.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.41 J	0.35 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 UJ	25 U	10 UJ	25 U	10 UJ	25 U	10 U
2-Hexanone	ug/L	50 U	10 U	50 U	10 U	50 U	10 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	50 U	10 U	50 U	10 U	50 U	10 U
Acetone	ug/L	25 U	10 UJ	25 U	10 UJ	25 U	10 UJ	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3.0 J	0.20 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.28 J	1.0 U	0.79 J	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.1	0.22 J	1.0 U	1.0 U	13	3.3
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.33 J	0.27 J	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	**27[ab]**	**28[ab]**	0.62 J	0.64 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	0.70 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	2.6	1.2	1.0 U	1.0 U	0.88 J	0.81 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.97 J	**2.1[ab]**
Xylenes (total)	ug/L	3.0 U	2.0 U	3.0 U	2.0 U	3.0 U	2.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW20-11	MW20-11	MW21-11	MW21-11	MW22-11	MW22-11	MW23-11	MW23-11
Sample Identification:		GW-17360-030911-DR-200	GW-17360-092311-EM-035	GW-17360-030911-DR-202	GW-17360-092311-EM-039	GW-17360-031011-DR-205	GW-17360-092311-EM-036	GW-17360-031011-DR-208	GW-17360-092211-EM-018
Sample Date:		3/9/2011	9/23/2011	3/9/2011	9/23/2011	3/10/2011	9/23/2011	3/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(16.5-21.5) ft BGS	(16.5-21.5) ft BGS	(21.5-26.5) ft BGS	(21.5-26.5) ft BGS	(20-25) ft BGS	(20-25) ft BGS
AOI		AOI 11	AOI 11	AOI 15.3	AOI 15.3	AOI 16.1	AOI 16.1	AOI 16.3	AOI 16.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	6.6	--
Acenaphthylene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Benzo(a)pyrene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Dibenz(a,h)anthracene	ug/L	2.0 U	--	2.0 U	--	2.0 U	--	2.0 U	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Fluorene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	2.0 U	--	2.0 U	--	2.0 U	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW20-11	MW20-11	MW21-11	MW21-11	MW22-11	MW22-11	MW23-11	MW23-11
Sample Identification:		GW-17360-030911-DR-200	GW-17360-092311-EM-035	GW-17360-030911-DR-202	GW-17360-092311-EM-039	GW-17360-031011-DR-205	GW-17360-092311-EM-036	GW-17360-031011-DR-208	GW-17360-092211-EM-018
Sample Date:		3/9/2011	9/23/2011	3/9/2011	9/23/2011	3/10/2011	9/23/2011	3/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(16.5-21.5) ft BGS	(16.5-21.5) ft BGS	(21.5-26.5) ft BGS	(21.5-26.5) ft BGS	(20-25) ft BGS	(20-25) ft BGS
AOI		AOI 11	AOI 11	AOI 15.3	AOI 15.3	AOI 16.1	AOI 16.1	AOI 16.3	AOI 16.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	--	2.0 U	--	2.0 U	--	2.0 U	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.0 U	--	2.0 U	--	2.0 U	--	0.16 J	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	2.1 J	--	5.0 U	--	5.0 U	--	**15.2**[abc]	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	124	--	33.5 J	--	48.1 J	--	204	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	5.0 U	--	1.2 J	--	5.0 U	--	5.0 U	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.67 J	--	0.18 J	--	0.78 J	--	0.27 J	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.0 U	--	2.0 U	--	2.0 U	--	2.0 U	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	3.0 U	--	3.0 U	--	3.0 U	--	0.30 J	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	**593**[ab]	--	15.0 U	--	**175**[ab]	--	**141**[ab]	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	3.5 J	--	20.0 U	--	2.0 J	--	1.9 J	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	--	4.0 U	--	4.0 U	--	4.0 U	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	20.0 U	--	20.0 U	--	20.0 U	--	20.0 U	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW20-11	MW20-11	MW21-11	MW21-11	MW22-11	MW22-11	MW23-11	MW23-11
Sample Identification:		GW-17360-030911-DR-200	GW-17360-092311-EM-035	GW-17360-030911-DR-202	GW-17360-092311-EM-039	GW-17360-031011-DR-205	GW-17360-092311-EM-036	GW-17360-031011-DR-208	GW-17360-092211-EM-018
Sample Date:		3/9/2011	9/23/2011	3/9/2011	9/23/2011	3/10/2011	9/23/2011	3/10/2011	9/22/2011
Sample Type:									
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(16.5-21.5) ft BGS	(16.5-21.5) ft BGS	(21.5-26.5) ft BGS	(21.5-26.5) ft BGS	(20-25) ft BGS	(20-25) ft BGS
AOI		AOI 11	AOI 11	AOI 15.3	AOI 15.3	AOI 16.1	AOI 16.1	AOI 16.3	AOI 16.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	--	0.20 U	--	0.20 U	--	0.20 U	--
Total PCBs	ug/L	0	--	0	--	0	--	0	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW24-11	MW24-11	MW24-11	MW24-11	MW25-11	MW25-11	MW26-11	MW26-11
Sample Identification:		GW-17360-030911-DR-203	GW-17360-030911-DR-204	WG-17360-101911-JV-058	WG-17360-101911-JV-059	GW-17360-031011-DR-206	GW-17360-092911-EM-041	GW-17360-031011-DR-207	GW-17360-092911-EM-045
Sample Date:		3/9/2011	3/9/2011	10/19/2011	10/19/2011	3/10/2011	9/29/2011	3/10/2011	9/29/2011
Sample Type:			Duplicate		Duplicate				
Segment_Depth		(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(20-25) ft BGS	(20-25) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 17.1	AOI 17.1	AOI 19	AOI 19
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.47 J	0.45 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.63 J	0.69 J
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	10 U	10 U	25 U	1.6 J	25 U	10 U
2-Hexanone	ug/L	50 U	50 U	10 U	10 U	50 U	10 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	10 UJ	10 UJ	50 U	10 U	50 U	10 U
Acetone	ug/L	25 U	25 U	10 UJ	10 UJ	25 U	10 U	25 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.51 J	0.34 J	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.4	1.4	0.59 J	0.57 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.34 J	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U	2.7	2.7
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	3.7	3.6	3.9	3.8	1.2	0.72 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 J	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Trichloroethene	ug/L	0.71 J	0.71 J	0.77 J	0.78 J	0.28 J	0.20 J	2.3	1.6
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.1
Xylenes (total)	ug/L	3.0 U	3.0 U	2.0 U	2.0 U	3.0 U	2.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW24-11	MW24-11	MW24-11	MW24-11	MW25-11	MW25-11	MW26-11	MW26-11
Sample Identification:		GW-17360-030911-DR-203	GW-17360-030911-DR-204	WG-17360-101911-JV-058	WG-17360-101911-JV-059	GW-17360-031011-DR-206	GW-17360-092911-EM-041	GW-17360-031011-DR-207	GW-17360-092911-EM-045
Sample Date:		3/9/2011	3/9/2011	10/19/2011	10/19/2011	3/10/2011	9/29/2011	3/10/2011	9/29/2011
Sample Type:			Duplicate		Duplicate				
Segment_Depth		(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(20-25) ft BGS	(20-25) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 17.1	AOI 17.1	AOI 19	AOI 19
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Acenaphthylene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Benzo(a)pyrene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Fluorene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW24-11	MW24-11	MW24-11	MW24-11	MW25-11	MW25-11	MW26-11	MW26-11
Sample Identification:		GW-17360-030911-DR-203	GW-17360-030911-DR-204	WG-17360-101911-JV-058	WG-17360-101911-JV-059	GW-17360-031011-DR-206	GW-17360-092911-EM-041	GW-17360-031011-DR-207	GW-17360-092911-EM-045
Sample Date:		3/9/2011	3/9/2011	10/19/2011	10/19/2011	3/10/2011	9/29/2011	3/10/2011	9/29/2011
Sample Type:			Duplicate		Duplicate				
Segment_Depth		(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(20-25) ft BGS	(20-25) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 17.1	AOI 17.1	AOI 19	AOI 19
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	5.0 U	5.0 U	--	--	0.62 J	--	6.6	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	36.4 J	38.9 J	--	--	52.6 J	--	155	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	1.2 J	1.3 J	--	--	5.0 U	--	5.0 U	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.094 J	0.12 J	--	--	0.22 J	--	1.2 J	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	3.0 U	3.0 U	--	--	3.0 U	--	3.0 U	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	15.0 U	15.0 U	--	--	**97.2[ab]**	--	**602[ab]**	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	20.0 U	20.0 U	--	--	20.0 U	--	2.4 J	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	4.0 U	--	--	4.0 U	--	4.0 U	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	20.0 U	20.0 U	--	--	20.0 U	--	20.0 U	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW24-11	MW24-11	MW24-11	MW24-11	MW25-11	MW25-11	MW26-11	MW26-11
Sample Identification:		GW-17360-030911-DR-203	GW-17360-030911-DR-204	WG-17360-101911-JV-058	WG-17360-101911-JV-059	GW-17360-031011-DR-206	GW-17360-092911-EM-041	GW-17360-031011-DR-207	GW-17360-092911-EM-045
Sample Date:		3/9/2011	3/9/2011	10/19/2011	10/19/2011	3/10/2011	9/29/2011	3/10/2011	9/29/2011
Sample Type:			Duplicate		Duplicate				
Segment_Depth		(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(19-24) ft BGS	(20-25) ft BGS	(20-25) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 17.1	AOI 17.1	AOI 19	AOI 19
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--
Total PCBs	ug/L	0	0	--	--	0	--	0	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11
Sample Identification:		GW-17360-031611-DR-251	GW-17360-092311-EM-032	GW-17360-092311-EM-033	GW-17360-102612-EB-028	WG-17360-050613-EB-043	WG-17360-110113-EB-036	WG-017360-042114-MR-052	WG-017360-101314-MR-030
Sample Date:		3/16/2011	9/23/2011	9/23/2011	10/26/2012	5/6/2013	11/1/2013	4/21/2014	10/13/2014
Sample Type:				Duplicate					
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.8	1.6	1.6	0.67 J	1.0	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	0.21 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	10 UJ	10 UJ	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	10 U	10 U	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	10 U	10 U	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	10 UJ	10 UJ	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.17 J	1.0 U	1.0 U	0.14 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 UJ	10 UJ	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.1	1.9	1.8	2.0	1.0 U	1.8	1.0 U	1.9
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	2.0 U	2.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11
Sample Identification:		GW-17360-031611-DR-251	GW-17360-092311-EM-032	GW-17360-092311-EM-033	GW-17360-102612-EB-028	WG-17360-050613-EB-043	WG-17360-110113-EB-036	WG-017360-042114-MR-052	WG-017360-101314-MR-030
Sample Date:		3/16/2011	9/23/2011	9/23/2011	10/26/2012	5/6/2013	11/1/2013	4/21/2014	10/13/2014
Sample Type:				Duplicate					
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	5.0 U	--	--	--	--	--	--	--
Acenaphthylene	ug/L	5.0 U	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	5.0 U	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	1.0 U	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	2.0 U	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	--	--	--	--	--	--	--
Fluorene	ug/L	5.0 U	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	5.0 U	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11
Sample Identification:		GW-17360-031611-DR-251	GW-17360-092311-EM-032	GW-17360-092311-EM-033	GW-17360-102612-EB-028	WG-17360-050613-EB-043	WG-17360-110113-EB-036	WG-017360-042114-MR-052	WG-017360-101314-MR-030
Sample Date:		3/16/2011	9/23/2011	9/23/2011	10/26/2012	5/6/2013	11/1/2013	4/21/2014	10/13/2014
Sample Type:				Duplicate					
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	5.0 U	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	1.6 J	--	--	--	--	--	--	2.2 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	5.0 U	--	--	--	--	--	--	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	98.0 J	--	--	--	--	--	--	47
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	--	--	--	--	--	--	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	1.0 U	--	--	--	--	--	--	0.15 J
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	1.2 J	--	--	--	--	--	--	0.4 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.35 J	--	--	--	--	--	--	0.37 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	2.3	--	--	--	--	--	--	5.4
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	3.0 U	--	--	--	--	--	--	5 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	6.5 J	--	--	--	--	--	--	0.98 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	--	--	--	--	--	--	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	15
Nickel	ug/L	0.86 J	--	--	--	--	--	--	8
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	5.0 U	--	--	--	--	--	--	2.1 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	--	--	--	--	--	--	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	--	--	--	--	--	--	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	4.0 U	--	--	--	--	--	--	3.3 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	20.0 U	--	--	--	--	--	--	24
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11	MW27-11
Sample Identification:		GW-17360-031611-DR-251	GW-17360-092311-EM-032	GW-17360-092311-EM-033	GW-17360-102612-EB-028	WG-17360-050613-EB-043	WG-17360-110113-EB-036	WG-017360-042114-MR-052	WG-017360-101314-MR-030
Sample Date:		3/16/2011	9/23/2011	9/23/2011	10/26/2012	5/6/2013	11/1/2013	4/21/2014	10/13/2014
Sample Type:				Duplicate					
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(12.5-17.5) ft BGS
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	--	--	--	--	--	--	--
Total PCBs	ug/L	0	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12
Sample Identification:		WG-017360-101314-MR-031	WG-017360-041315-MR-028	WG-17360-021312-EB-001	GW-17360-102512-EB-016	WG-17360-050213-MR-027	WG-17360-103113-MR-028	WG-017360-041714-MR-032	WG-017360-100914-MR-021
Sample Date:		10/13/2014	4/13/2015	2/13/2012	10/25/2012	5/2/2013	10/31/2013	4/17/2014	10/9/2014
Sample Type:		Duplicate							
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS
AOI		AOI 27	AOI 27	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	1.0 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	1.0 U	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	--	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	--	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	--	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	--	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	0.84 J	1.0 U	1.3	2.4	4.8
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	--	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.9	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12
Sample Identification:		WG-017360-101314-MR-031	WG-017360-041315-MR-028	WG-17360-021312-EB-001	GW-17360-102512-EB-016	WG-17360-050213-MR-027	WG-17360-103113-MR-028	WG-017360-041714-MR-032	WG-017360-100914-MR-021
Sample Date:		10/13/2014	4/13/2015	2/13/2012	10/25/2012	5/2/2013	10/31/2013	4/17/2014	10/9/2014
Sample Type:		Duplicate							
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS
AOI		AOI 27	AOI 27	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	5.0 U	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	5.0 U	--	--	--	--	--
Acenaphthylene	ug/L	--	--	5.0 U	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	5.0 U	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	0.051 J	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	1.0 U	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	0.061 J	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	1.0 U	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	2.0 U	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	0.061 J	--	--	--	--	--
Fluorene	ug/L	--	--	5.0 U	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	2.0 U	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	5.0 U	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12
Sample Identification:		WG-017360-101314-MR-031	WG-017360-041315-MR-028	WG-17360-021312-EB-001	GW-17360-102512-EB-016	WG-17360-050213-MR-027	WG-17360-103113-MR-028	WG-017360-041714-MR-032	WG-017360-100914-MR-021
Sample Date:		10/13/2014	4/13/2015	2/13/2012	10/25/2012	5/2/2013	10/31/2013	4/17/2014	10/9/2014
Sample Type:		Duplicate							
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS
AOI		AOI 27	AOI 27	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	0.051 J	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	0.12 J	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	2.3 J	2.3 J	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	5 U	5 U	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	46	35	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	2 U	1 U	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	0.1 J	0.12 J	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	0.43 J	3.3 J	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.36 J	0.25 J	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	5.1	7.2	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	13 J	--	--	--	--	--	--
Lead	ug/L	5 U	0.4 J	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	0.87 J	5 U	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	0.2 U	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	14	12	--	--	--	--	--	--
Nickel	ug/L	7.4	8.8 U	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	2 J	1.6 J	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	5 U	0.2 U	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	5 U	2 U	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	3.3 J	2.3 J	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	22	34	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW27-11	MW27-11	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW28-12
Sample Identification:		WG-017360-101314-MR-031	WG-017360-041315-MR-028	WG-17360-021312-EB-001	GW-17360-102512-EB-016	WG-17360-050213-MR-027	WG-17360-103113-MR-028	WG-017360-041714-MR-032	WG-017360-100914-MR-021
Sample Date:		10/13/2014	4/13/2015	2/13/2012	10/25/2012	5/2/2013	10/31/2013	4/17/2014	10/9/2014
Sample Type:		Duplicate							
Segment_Depth		(12.5-17.5) ft BGS	(12.5-17.5) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS
AOI		AOI 27	AOI 27	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	200 U	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW29-12	MW29-12	MW29-12
Sample Identification:		WG-017360-040915-MR-024	WG-017360-102615-MR-026	WG-017360-041316-MR-031	WG-017360-101016-MR-024	WG-017360-040717-MR-021	GW-17360-102912-DD-040	GW-17360-050713-BW-049	WG-17360-103113-MR-032
Sample Date:		4/9/2015	10/26/2015	4/13/2016	10/10/2016	4/7/2017	10/29/2012	5/7/2013	10/31/2013
Sample Type:									
Segment_Depth		(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 15.3	AOI 15.3	AOI 15.3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	5.0 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	11	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.83 J	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	5.9	4.6	1.7	2.5	1.2	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.72 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	0.62 J	1.0 U	1.0 U	1.0 U	**13**[ab]	3.2	3.4
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U	2.4
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW29-12	MW29-12	MW29-12
Sample Identification:		WG-017360-040915-MR-024	WG-017360-102615-MR-026	WG-017360-041316-MR-031	WG-017360-101016-MR-024	WG-017360-040717-MR-021	GW-17360-102912-DD-040	GW-17360-050713-BW-049	WG-17360-103113-MR-032
Sample Date:		4/9/2015	10/26/2015	4/13/2016	10/10/2016	4/7/2017	10/29/2012	5/7/2013	10/31/2013
Sample Type:									
Segment_Depth		(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 15.3	AOI 15.3	AOI 15.3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW29-12	MW29-12	MW29-12
Sample Identification:		WG-017360-040915-MR-024	WG-017360-102615-MR-026	WG-017360-041316-MR-031	WG-017360-101016-MR-024	WG-017360-040717-MR-021	GW-17360-102912-DD-040	GW-17360-050713-BW-049	WG-17360-103113-MR-032
Sample Date:		4/9/2015	10/26/2015	4/13/2016	10/10/2016	4/7/2017	10/29/2012	5/7/2013	10/31/2013
Sample Type:									
Segment_Depth		(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 15.3	AOI 15.3	AOI 15.3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW28-12	MW28-12	MW28-12	MW28-12	MW28-12	MW29-12	MW29-12	MW29-12
Sample Identification:		WG-017360-040915-MR-024	WG-017360-102615-MR-026	WG-017360-041316-MR-031	WG-017360-101016-MR-024	WG-017360-040717-MR-021	GW-17360-102912-DD-040	GW-17360-050713-BW-049	WG-17360-103113-MR-032
Sample Date:		4/9/2015	10/26/2015	4/13/2016	10/10/2016	4/7/2017	10/29/2012	5/7/2013	10/31/2013
Sample Type:									
Segment_Depth		(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(14-19) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS	(11.4-21.4) ft BGS
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 15.3	AOI 15.3	AOI 15.3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW29-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12
Sample Identification:		WG-017360-041814-MR-035	GW-17360-102912-DD-039	GW-17360-050713-BW-050	WG-17360-103113-MR-033	WG-017360-041814-MR-036	WG-017360-100914-MR-023	WG-017360-040915-MR-025	WG-017360-102615-MR-025
Sample Date:		4/18/2014	10/29/2012	5/7/2013	10/31/2013	4/18/2014	10/9/2014	4/9/2015	10/26/2015
Sample Type:									
Segment_Depth		(11.4-21.4) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 15.3	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.39 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.9	**12**[ab]	**7.5**[ab]	**6.0**[ab]	4.1	3.5	2.7	2.9
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.71 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	0.78 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW29-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12
Sample Identification:		WG-017360-041814-MR-035	GW-17360-102912-DD-039	GW-17360-050713-BW-050	WG-17360-103113-MR-033	WG-017360-041814-MR-036	WG-017360-100914-MR-023	WG-017360-040915-MR-025	WG-017360-102615-MR-025
Sample Date:		4/18/2014	10/29/2012	5/7/2013	10/31/2013	4/18/2014	10/9/2014	4/9/2015	10/26/2015
Sample Type:									
Segment_Depth		(11.4-21.4) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 15.3	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW29-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12
Sample Identification:		WG-017360-041814-MR-035	GW-17360-102912-DD-039	GW-17360-050713-BW-050	WG-17360-103113-MR-033	WG-017360-041814-MR-036	WG-017360-100914-MR-023	WG-017360-040915-MR-025	WG-017360-102615-MR-025
Sample Date:		4/18/2014	10/29/2012	5/7/2013	10/31/2013	4/18/2014	10/9/2014	4/9/2015	10/26/2015
Sample Type:									
Segment_Depth		(11.4-21.4) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 15.3	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW29-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12	MW30-12
Sample Identification:		WG-017360-041814-MR-035	GW-17360-102912-DD-039	GW-17360-050713-BW-050	WG-17360-103113-MR-033	WG-017360-041814-MR-036	WG-017360-100914-MR-023	WG-017360-040915-MR-025	WG-017360-102615-MR-025
Sample Date:		4/18/2014	10/29/2012	5/7/2013	10/31/2013	4/18/2014	10/9/2014	4/9/2015	10/26/2015
Sample Type:									
Segment_Depth		(11.4-21.4) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS
AOI		AOI 15.3	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW30-12	MW30-12	MW30-12	MW31-12	MW31-12	MW31-12	MW31-12	MW31-12
Sample Identification:		WG-017360-041316-MR-032	WG-017360-101016-MR-025	WG-017360-041117-MR-023	GW-17360-103012-JV-045	WG-17360-050713-EB-059	WG-17360-110413-MR-042	WG-017360-041814-MR-037	WG-017360-041814-MR-038
Sample Date:		4/13/2016	10/10/2016	4/11/2017	10/30/2012	5/7/2013	11/4/2013	4/18/2014	4/18/2014
Sample Type:									Duplicate
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	2.4 J	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	9.9	0.50 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.3	1.0 U	1.0 U	**5.3[ab]**	1.0 U	**6.8[ab]**	3.7	4.3
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.93 J	1.0 U	1.4	1.2	1.4
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW30-12	MW30-12	MW30-12	MW31-12	MW31-12	MW31-12	MW31-12	MW31-12
Sample Identification:		WG-017360-041316-MR-032	WG-017360-101016-MR-025	WG-017360-041117-MR-023	GW-17360-103012-JV-045	WG-17360-050713-EB-059	WG-17360-110413-MR-042	WG-017360-041814-MR-037	WG-017360-041814-MR-038
Sample Date:		4/13/2016	10/10/2016	4/11/2017	10/30/2012	5/7/2013	11/4/2013	4/18/2014	4/18/2014
Sample Type:									Duplicate
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW30-12	MW30-12	MW30-12	MW31-12	MW31-12	MW31-12	MW31-12	MW31-12
Sample Identification:		WG-017360-041316-MR-032	WG-017360-101016-MR-025	WG-017360-041117-MR-023	GW-17360-103012-JV-045	WG-17360-050713-EB-059	WG-17360-110413-MR-042	WG-017360-041814-MR-037	WG-017360-041814-MR-038
Sample Date:		4/13/2016	10/10/2016	4/11/2017	10/30/2012	5/7/2013	11/4/2013	4/18/2014	4/18/2014
Sample Type:									Duplicate
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	0.052 J	0.15 J	0.3 J	0.3 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	9.5	5 U	5 U	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	83	37	23	23
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	2 U	2 U	2 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	0.18 J	0.27 J	2 U	2 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	0.44 J	1 J	1.7 J	1.6 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	1.7 J	0.97 J	1.3 J	1.2 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	1.5 J	1.8 J	1.6 J	1.4 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	0.45 J	0.21 J	0.21 J	0.14 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	**670[ab]**	29	41	27
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	0.2 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	0.31 J	3.4 J	4.2 J	4.3 J
Nickel	ug/L	--	--	--	--	1.9 J	2.8 J	2.7 J	2.6 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	5 U	1.4 J	1.1 J	1.1 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	5 U	5 U	5 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	5 U	5 U	5 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	5 U	5 U	0.3 J	0.19 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	**610[c]**	2.1 J	4.9 J	2.7 J
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW30-12	MW30-12	MW30-12	MW31-12	MW31-12	MW31-12	MW31-12	MW31-12
Sample Identification:		WG-017360-041316-MR-032	WG-017360-101016-MR-025	WG-017360-041117-MR-023	GW-17360-103012-JV-045	WG-17360-050713-EB-059	WG-17360-110413-MR-042	WG-017360-041814-MR-037	WG-017360-041814-MR-038
Sample Date:		4/13/2016	10/10/2016	4/11/2017	10/30/2012	5/7/2013	11/4/2013	4/18/2014	4/18/2014
Sample Type:									Duplicate
Segment_Depth		(25-30) ft BGS	(25-30) ft BGS	(25-30) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS	(12.2-22.2) ft BGS
AOI		AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 25, AOI 1, AOI 4.1	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4	AOI 16.4
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12
Sample Identification:		GW-17360-103012-JV-044	WG-17360-050713-MR-056	WG-17360-110413-MR-044	WG-017360-041814-MR-039	WG-017360-100914-MR-024	WG-017360-041315-MR-033	WG-017360-102615-MR-029	WG-017360-102615-MR-030
Sample Date:		10/30/2012	5/7/2013	11/4/2013	4/18/2014	10/9/2014	4/13/2015	10/26/2015	10/26/2015
Sample Type:									Duplicate
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.44 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	0.67 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	1.0 U	2.5	1.6	2.6	3.8	**6.0[ab]**	**6.3[ab]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.88 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.87 J	0.88 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12
Sample Identification:		GW-17360-103012-JV-044	WG-17360-050713-MR-056	WG-17360-110413-MR-044	WG-017360-041814-MR-039	WG-017360-100914-MR-024	WG-017360-041315-MR-033	WG-017360-102615-MR-029	WG-017360-102615-MR-030
Sample Date:		10/30/2012	5/7/2013	11/4/2013	4/18/2014	10/9/2014	4/13/2015	10/26/2015	10/26/2015
Sample Type:									Duplicate
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12
Sample Identification:		GW-17360-103012-JV-044	WG-17360-050713-MR-056	WG-17360-110413-MR-044	WG-017360-041814-MR-039	WG-017360-100914-MR-024	WG-017360-041315-MR-033	WG-017360-102615-MR-029	WG-017360-102615-MR-030
Sample Date:		10/30/2012	5/7/2013	11/4/2013	4/18/2014	10/9/2014	4/13/2015	10/26/2015	10/26/2015
Sample Type:									Duplicate
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12	MW32-12
Sample Identification:		GW-17360-103012-JV-044	WG-17360-050713-MR-056	WG-17360-110413-MR-044	WG-017360-041814-MR-039	WG-017360-100914-MR-024	WG-017360-041315-MR-033	WG-017360-102615-MR-029	WG-017360-102615-MR-030
Sample Date:		10/30/2012	5/7/2013	11/4/2013	4/18/2014	10/9/2014	4/13/2015	10/26/2015	10/26/2015
Sample Type:									Duplicate
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-041816-MR-049	WG-017360-101116-MR-035	WG-017360-041117-MR-024	GW-17360-121217-SK-004	GW-17360-110212-BW-051	WG-17360-050713-MR-057	WG-17360-110413-MR-043	WG-017360-042114-MR-045
Sample Date:		4/18/2016	10/11/2016	4/11/2017	12/12/2017	11/2/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	2.0 U	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	--	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	--	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	--	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	1.5 J	--	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	0.18 J	1.6	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	--	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.9	**5.7[ab]**	3.6	--	0.74 J	1.0 U	2.3	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.59 J	1.0 U	1.0 U	--	1.1	3.0	1.7	2.8
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	--	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-041816-MR-049	WG-017360-101116-MR-035	WG-017360-041117-MR-024	GW-17360-121217-SK-004	GW-17360-110212-BW-051	WG-17360-050713-MR-057	WG-17360-110413-MR-043	WG-017360-042114-MR-045
Sample Date:		4/18/2016	10/11/2016	4/11/2017	12/12/2017	11/2/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	0.085	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	0.0027 U	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	0.061	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	0.0065	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	0.0011 J	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	0.0022 U	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	0.0022 U	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	0.073	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-041816-MR-049	WG-017360-101116-MR-035	WG-017360-041117-MR-024	GW-17360-121217-SK-004	GW-17360-110212-BW-051	WG-17360-050713-MR-057	WG-17360-110413-MR-043	WG-017360-042114-MR-045
Sample Date:		4/18/2016	10/11/2016	4/11/2017	12/12/2017	11/2/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	0.039	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	0.0022 U	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	0.013	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	0.007	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	0.24	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	0.0022 U	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	0.0022 U	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	0.0022 U	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	0.0022 U	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	0.0062 J	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	1.0 U	0.11 J	0.23 J	0.19 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	0.34 J	1.1 J	0.74 J	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	51	51	39	46
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	1.0 U	2 U	2 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	0.20 U	0.06 J	0.43 J	2 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	1.0 U	5 U	5 U	5 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	1.6	8.6	4.8 J	2.8 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	1.8	4.1 J	3.2 J	5 U
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	150	--	--	--
Lead	ug/L	--	--	--	--	0.22 J	5 U	0.18 J	5 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	23	32	**360[ab]**	**370[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	0.20 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	0.41 J	0.71 J	8.6	15
Nickel	ug/L	--	--	--	--	1.6	5.7	7.6	5.4
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	0.97 J	5 U	0.94 J	5 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	0.20 U	5 U	5 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	1.0 U	5 U	5 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	1.2	5 U	5 U	5 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	4.2 J	2.7 J	1.2 J	10 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW32-12	MW32-12	MW32-12	MW32-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-041816-MR-049	WG-017360-101116-MR-035	WG-017360-041117-MR-024	GW-17360-121217-SK-004	GW-17360-110212-BW-051	WG-17360-050713-MR-057	WG-17360-110413-MR-043	WG-017360-042114-MR-045
Sample Date:		4/18/2016	10/11/2016	4/11/2017	12/12/2017	11/2/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(13.9-23.9) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 7.1, AOI 26.2	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-101414-MR-038	WG-017360-041315-MR-034	WG-017360-102615-MR-028	WG-017360-041816-MR-048	WG-017360-101116-MR-034	WG-017360-041117-MR-025	WG-017360-041117-MR-026
Sample Date:		10/14/2014	4/13/2015	10/26/2015	4/18/2016	10/11/2016	4/11/2017	4/11/2017
Sample Type:								Duplicate
Segment_Depth		(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1.4 J	50 U	50 U	2.2 J	2.0 J	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	2.6 J
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	2.0	1.7	1.5	2.3	2.1	3.5	3.5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.3	2.4	1.7	0.84 J	1.1	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	0.21 J	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.32 J	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.0	2.2	2.4	2.5	1.7	1.8	1.6
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-101414-MR-038	WG-017360-041315-MR-034	WG-017360-102615-MR-028	WG-017360-041816-MR-048	WG-017360-101116-MR-034	WG-017360-041117-MR-025	WG-017360-041117-MR-026
Sample Date:		10/14/2014	4/13/2015	10/26/2015	4/18/2016	10/11/2016	4/11/2017	4/11/2017
Sample Type:								Duplicate
Segment_Depth		(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-101414-MR-038	WG-017360-041315-MR-034	WG-017360-102615-MR-028	WG-017360-041816-MR-048	WG-017360-101116-MR-034	WG-017360-041117-MR-025	WG-017360-041117-MR-026
Sample Date:		10/14/2014	4/13/2015	10/26/2015	4/18/2016	10/11/2016	4/11/2017	4/11/2017
Sample Type:								Duplicate
Segment_Depth		(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12	MW33-12
Sample Identification:		WG-017360-101414-MR-038	WG-017360-041315-MR-034	WG-017360-102615-MR-028	WG-017360-041816-MR-048	WG-017360-101116-MR-034	WG-017360-041117-MR-025	WG-017360-041117-MR-026
Sample Date:		10/14/2014	4/13/2015	10/26/2015	4/18/2016	10/11/2016	4/11/2017	4/11/2017
Sample Type:								Duplicate
Segment_Depth		(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS	(31-36) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12
Sample Identification:		GW-17360-110212-BW-052	WG-17360-050713-MR-051	WG-17360-110413-MR-046	WG-017360-042114-MR-046	WG-017360-101414-MR-037	WG-017360-041315-MR-030	WG-017360-041315-MR-031	WG-017360-102715-MR-037
Sample Date:		11/2/2012	5/7/2013	11/4/2013	4/21/2014	10/14/2014	4/13/2015	4/13/2015	10/27/2015
Sample Type:								Duplicate	
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 UJ	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	0.89 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	2.9	3.7	4.9	**5.1[ab]**	4.3	4.4	4.3	**5.1[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12
Sample Identification:		GW-17360-110212-BW-052	WG-17360-050713-MR-051	WG-17360-110413-MR-046	WG-017360-042114-MR-046	WG-017360-101414-MR-037	WG-017360-041315-MR-030	WG-017360-041315-MR-031	WG-017360-102715-MR-037
Sample Date:		11/2/2012	5/7/2013	11/4/2013	4/21/2014	10/14/2014	4/13/2015	4/13/2015	10/27/2015
Sample Type:								Duplicate	
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12
Sample Identification:		GW-17360-110212-BW-052	WG-17360-050713-MR-051	WG-17360-110413-MR-046	WG-017360-042114-MR-046	WG-017360-101414-MR-037	WG-017360-041315-MR-030	WG-017360-041315-MR-031	WG-017360-102715-MR-037
Sample Date:		11/2/2012	5/7/2013	11/4/2013	4/21/2014	10/14/2014	4/13/2015	4/13/2015	10/27/2015
Sample Type:								Duplicate	
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	1.0 U	0.15 J	0.11 J	0.21 J	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	1.0 U	5 U	5 U	5 U	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	36	39	29	14	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	1.0 U	2 U	2 U	2 U	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	0.059 J	2 U	0.47 J	0.15 J	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	1.2 U	1.1 J	2.1 J	3.9 J	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.50 J	0.9 J	2.2 J	2.2 J	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	3.0	0.82 J	3.2 J	5 U	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	130	--	--	--	--	--	--	--
Lead	ug/L	2.4	5 U	0.51 J	5 U	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	8.2	0.97 J	15 U	5 U	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	0.20 U	0.2 U	0.2 U	0.2 U	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	0.46 J	27	38	26	--	--	--	--
Nickel	ug/L	2.7	2.1 J	3.1 J	5 U	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	3.8	2 J	2.4 J	5 U	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	0.20 U	5 U	5 U	0.081 J	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	1.0 U	5 U	5 U	5 U	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	1.2	0.78 J	1.4 J	5 U	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	23	6.6 J	3 J	10 U	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12	MW34-12
Sample Identification:		GW-17360-110212-BW-052	WG-17360-050713-MR-051	WG-17360-110413-MR-046	WG-017360-042114-MR-046	WG-017360-101414-MR-037	WG-017360-041315-MR-030	WG-017360-041315-MR-031	WG-017360-102715-MR-037
Sample Date:		11/2/2012	5/7/2013	11/4/2013	4/21/2014	10/14/2014	4/13/2015	4/13/2015	10/27/2015
Sample Type:								Duplicate	
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-041816-MR-045	WG-017360-041816-MR-046	WG-017360-101116-MR-032	WG-017360-041117-MR-028	GW-17360-102612-EB-035	WG-17360-050713-MR-052	WG-17360-110413-MR-045	WG-017360-042114-MR-047
Sample Date:		4/18/2016	4/18/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:			Duplicate						
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.2	1.1	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.7	3.7	3.1	2.3	**21[ab]**	**29[ab]**	**29[ab]**	**30[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-041816-MR-045	WG-017360-041816-MR-046	WG-017360-101116-MR-032	WG-017360-041117-MR-028	GW-17360-102612-EB-035	WG-17360-050713-MR-052	WG-17360-110413-MR-045	WG-017360-042114-MR-047
Sample Date:		4/18/2016	4/18/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:			Duplicate						
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-041816-MR-045	WG-017360-041816-MR-046	WG-017360-101116-MR-032	WG-017360-041117-MR-028	GW-17360-102612-EB-035	WG-17360-050713-MR-052	WG-17360-110413-MR-045	WG-017360-042114-MR-047
Sample Date:		4/18/2016	4/18/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:			Duplicate						
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW34-12	MW34-12	MW34-12	MW34-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-041816-MR-045	WG-017360-041816-MR-046	WG-017360-101116-MR-032	WG-017360-041117-MR-028	GW-17360-102612-EB-035	WG-17360-050713-MR-052	WG-17360-110413-MR-045	WG-017360-042114-MR-047
Sample Date:		4/18/2016	4/18/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/4/2013	4/21/2014
Sample Type:			Duplicate						
Segment_Depth		(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(14.4-24.4) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-042114-MR-048	WG-017360-101414-MR-039	WG-017360-041415-MR-035	WG-017360-102715-MR-038	WG-017360-041816-MR-047	WG-017360-101116-MR-033	WG-017360-041117-MR-027
Sample Date:		4/21/2014	10/14/2014	4/14/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:		Duplicate						
Segment_Depth		(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.58 J	1.0 U	0.28 J	0.26 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 J	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**31**[ab]	**37**[ab]	**37**[ab]	**31**[ab]	**33**[ab]	**28**[ab]	**25**[ab]
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-042114-MR-048	WG-017360-101414-MR-039	WG-017360-041415-MR-035	WG-017360-102715-MR-038	WG-017360-041816-MR-047	WG-017360-101116-MR-033	WG-017360-041117-MR-027
Sample Date:		4/21/2014	10/14/2014	4/14/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:		Duplicate						
Segment_Depth		(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-042114-MR-048	WG-017360-101414-MR-039	WG-017360-041415-MR-035	WG-017360-102715-MR-038	WG-017360-041816-MR-047	WG-017360-101116-MR-033	WG-017360-041117-MR-027
Sample Date:		4/21/2014	10/14/2014	4/14/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:		Duplicate						
Segment_Depth		(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12	MW35-12
Sample Identification:		WG-017360-042114-MR-048	WG-017360-101414-MR-039	WG-017360-041415-MR-035	WG-017360-102715-MR-038	WG-017360-041816-MR-047	WG-017360-101116-MR-033	WG-017360-041117-MR-027
Sample Date:		4/21/2014	10/14/2014	4/14/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:		Duplicate						
Segment_Depth		(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS	(24.6-29.6) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW36-12	MW36-12	MW36-12	MW36-12	MW37-12	MW37-12	MW37-12
Sample Identification:		GW-17360-121217-SK-005	GW-17360-103012-JV-046	WG-17360-050713-MR-060	WG-17360-110413-EB-053	WG-017360-042214-MR-058	GW-17360-102312-DD-009	WG-17360-050313-MR-036	WG-17360-110413-EB-052
Sample Date:		12/12/2017	10/30/2012	5/7/2013	11/4/2013	4/22/2014	10/23/2012	5/3/2013	11/4/2013
Sample Type:									
Segment_Depth		(24.6-29.6) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 16.3	AOI 16.3	AOI 16.3	AOI 16.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	--	0.22 J	1.0 U	1.0 U	5.0 U	0.45 J	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	0.40 J	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	2.0 U	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	5.0 U	25 U	25 U	120 U	5.0 U	25 U	25 U
2-Hexanone	ug/L	--	5.0 U	50 U	50 U	250 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	5.0 U	50 U	50 U	250 U	5.0 U	50 U	50 U
Acetone	ug/L	--	5.0 U	50 U	50 U	250 U	5.0 U	50 U	50 U
Benzene	ug/L	--	0.28 J	1.0 U	0.26 J	**6.0**[ab]	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	--	0.25 J	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	7.8	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	--	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	--	0.55 J	1.0 U	1.4	2.6 J	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	--	2.4	5.0 U	0.35 J	25 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	--	5.0 U	10 U	10 U	12 J	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	--	5.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	--	1.0 U	5.0 U	5.0 U	25 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	--	1.0 U	2.8	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	--	1.0 U	1.0 U	0.46 J	6.5	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.8	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	**17**[ab]	**17**[ab]	**12**[ab]
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	--	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	--	0.27 J	1.0 U	1.0 U	5.0 U	0.56 J	1.0 U	1.0 U
Xylenes (total)	ug/L	--	2.1 J	3.0 U	1.5 J	9.2 J	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW36-12	MW36-12	MW36-12	MW36-12	MW37-12	MW37-12	MW37-12
Sample Identification:		GW-17360-121217-SK-005	GW-17360-103012-JV-046	WG-17360-050713-MR-060	WG-17360-110413-EB-053	WG-017360-042214-MR-058	GW-17360-102312-DD-009	WG-17360-050313-MR-036	WG-17360-110413-EB-052
Sample Date:		12/12/2017	10/30/2012	5/7/2013	11/4/2013	4/22/2014	10/23/2012	5/3/2013	11/4/2013
Sample Type:									
Segment_Depth		(24.6-29.6) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 16.3	AOI 16.3	AOI 16.3	AOI 16.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	0.02	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	0.017	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	0.019	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW36-12	MW36-12	MW36-12	MW36-12	MW37-12	MW37-12	MW37-12
Sample Identification:		GW-17360-121217-SK-005	GW-17360-103012-JV-046	WG-17360-050713-MR-060	WG-17360-110413-EB-053	WG-017360-042214-MR-058	GW-17360-102312-DD-009	WG-17360-050313-MR-036	WG-17360-110413-EB-052
Sample Date:		12/12/2017	10/30/2012	5/7/2013	11/4/2013	4/22/2014	10/23/2012	5/3/2013	11/4/2013
Sample Type:									
Segment_Depth		(24.6-29.6) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 16.3	AOI 16.3	AOI 16.3	AOI 16.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	0.014	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	0.051	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	0.021 U	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	0.37 J	0.11 J	0.073 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	0.32 J	5 U	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	140	80	100
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	1.0 U	2 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	0.20 U	0.053 J	0.47 J
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	0.33 J	2.7 J	1.5 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	1.3	2.3 J	11
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	1.7	1.1 J	5.2
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	83	--	--
Lead	ug/L	--	--	--	--	--	0.65 J	0.28 J	0.45 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	**360[ab]**	38	**250[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	0.20 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	0.79 J	0.37 J	0.58 J
Nickel	ug/L	--	--	--	--	--	2.1	6.1	9.5
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	1.0 U	2.2 J	1.4 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	0.20 U	5 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	1.0 U	5 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	0.91 J	5 U	0.22 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	16	1.4 J	4.6 J
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW35-12	MW36-12	MW36-12	MW36-12	MW36-12	MW37-12	MW37-12	MW37-12
Sample Identification:		GW-17360-121217-SK-005	GW-17360-103012-JV-046	WG-17360-050713-MR-060	WG-17360-110413-EB-053	WG-017360-042214-MR-058	GW-17360-102312-DD-009	WG-17360-050313-MR-036	WG-17360-110413-EB-052
Sample Date:		12/12/2017	10/30/2012	5/7/2013	11/4/2013	4/22/2014	10/23/2012	5/3/2013	11/4/2013
Sample Type:									
Segment_Depth		(24.6-29.6) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.5-29.5) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 16.3	AOI 16.3	AOI 16.3	AOI 16.3	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12
Sample Identification:		WG-017360-042214-MR-057	WG-017360-101414-MR-040	WG-017360-041415-MR-036	WG-017360-041415-MR-037	WG-017360-102815-MR-040	WG-017360-041416-MR-040	WG-017360-101216-MR-037
Sample Date:		4/22/2014	10/14/2014	4/14/2015	4/14/2015	10/28/2015	4/14/2016	10/12/2016
Sample Type:					Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.79 J	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**14[ab]**	**14[ab]**	**6.4[ab]**	**6.8[ab]**	**6.8[ab]**	**15[ab]**	**11[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12
Sample Identification:		WG-017360-042214-MR-057	WG-017360-101414-MR-040	WG-017360-041415-MR-036	WG-017360-041415-MR-037	WG-017360-102815-MR-040	WG-017360-041416-MR-040	WG-017360-101216-MR-037
Sample Date:		4/22/2014	10/14/2014	4/14/2015	4/14/2015	10/28/2015	4/14/2016	10/12/2016
Sample Type:					Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12
Sample Identification:		WG-017360-042214-MR-057	WG-017360-101414-MR-040	WG-017360-041415-MR-036	WG-017360-041415-MR-037	WG-017360-102815-MR-040	WG-017360-041416-MR-040	WG-017360-101216-MR-037
Sample Date:		4/22/2014	10/14/2014	4/14/2015	4/14/2015	10/28/2015	4/14/2016	10/12/2016
Sample Type:					Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	0.078 J	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	5 U	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	54	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	2 U	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	2 U	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	10	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	4.8 J	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	2.4 J	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	0.34 J	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	**61**[ab]	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	2.1 J	--	--	--	--	--	--
Nickel	ug/L	5.4	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	5 U	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	5 U	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	5 U	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	0.23 J	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	4.1 J	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12	MW37-12
Sample Identification:		WG-017360-042214-MR-057	WG-017360-101414-MR-040	WG-017360-041415-MR-036	WG-017360-041415-MR-037	WG-017360-102815-MR-040	WG-017360-041416-MR-040	WG-017360-101216-MR-037
Sample Date:		4/22/2014	10/14/2014	4/14/2015	4/14/2015	10/28/2015	4/14/2016	10/12/2016
Sample Type:					Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS	(19.4-29.4) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12
Sample Identification:		WG-017360-041217-MR-035	GW-17360-102312-DD-008	WG-17360-050313-MR-035	WG-17360-110513-MR-057	WG-17360-110513-MR-061	WG-017360-042214-MR-056	WG-017360-101414-MR-041	WG-017360-041415-MR-038
Sample Date:		4/12/2017	10/23/2012	5/3/2013	11/5/2013	11/5/2013	4/22/2014	10/14/2014	4/14/2015
Sample Type:						Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	0.61 J	1.0 U	1.1	1.1	1.5	1.0	0.94 J
1,1-Dichloroethene	ug/L	1.0 U	1.2	1.0 U	0.94 J	0.93 J	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	2.4 J	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.43 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	6.5	9.3	16	16	18	8.0	6.7
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	**12**[ab]	4.4	3.7	**5.1**[ab]	**5.1**[ab]	3.5	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	**7.2**[ab]	**14**[abc]	**11**[ab]	**11**[ab]	**14**[abc]	**13 J**[ab]	**11**[ab]
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12
Sample Identification:		WG-017360-041217-MR-035	GW-17360-102312-DD-008	WG-17360-050313-MR-035	WG-17360-110513-MR-057	WG-17360-110513-MR-061	WG-017360-042214-MR-056	WG-017360-101414-MR-041	WG-017360-041415-MR-038
Sample Date:		4/12/2017	10/23/2012	5/3/2013	11/5/2013	11/5/2013	4/22/2014	10/14/2014	4/14/2015
Sample Type:						Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12
Sample Identification:		WG-017360-041217-MR-035	GW-17360-102312-DD-008	WG-17360-050313-MR-035	WG-17360-110513-MR-057	WG-17360-110513-MR-061	WG-017360-042214-MR-056	WG-017360-101414-MR-041	WG-017360-041415-MR-038
Sample Date:		4/12/2017	10/23/2012	5/3/2013	11/5/2013	11/5/2013	4/22/2014	10/14/2014	4/14/2015
Sample Type:						Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	0.11 J	5 U	5 U	5 U	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	6.6	7.2	6.8	5.4	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	140	130	130	130	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	2 U	2 U	2 U	2 U	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	0.075 J	2 U	0.76 J	2 U	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	0.43 J	5 U	5 U	5 U	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	0.29 J	0.46 J	1.2 J	0.5 J	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	5 U	1.6 J	1.4 J	5 U	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	0.18 J	0.55 J	5 U	5 U	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	**83[ab]**	**72[ab]**	**72[ab]**	**70[ab]**	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	0.82 J	0.52 J	0.5 J	0.51 J	--	--
Nickel	ug/L	--	--	1.3 J	11	13	3.6 J	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	0.87 J	5 U	5 U	5 U	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	0.057 J	5 U	5 U	5 U	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	5 U	5 U	5 U	5 U	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	5 U	5 U	5 U	0.18 J	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	2.8 J	2 J	10 U	0.59 J	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW37-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12	MW38-12
Sample Identification:		WG-017360-041217-MR-035	GW-17360-102312-DD-008	WG-17360-050313-MR-035	WG-17360-110513-MR-057	WG-17360-110513-MR-061	WG-017360-042214-MR-056	WG-017360-101414-MR-041	WG-017360-041415-MR-038
Sample Date:		4/12/2017	10/23/2012	5/3/2013	11/5/2013	11/5/2013	4/22/2014	10/14/2014	4/14/2015
Sample Type:						Duplicate			
Segment_Depth		(19.4-29.4) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS
AOI		AOI 25, AOI 4.1	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW38-12	MW38-12	MW38-12	MW38-12	MW39-12	MW39-12	MW39-12	MW39-12
Sample Identification:		WG-017360-102815-MR-041	WG-017360-040616-MR-011	WG-017360-101216-MR-038	WG-017360-041217-MR-036	GW-17360-102612-EB-032	WG-17360-050613-EB-045	WG-17360-110413-EB-051	WG-017360-042114-MR-049
Sample Date:		10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/26/2012	5/6/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	0.92 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	5.0 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	5.0 U	3.8 J	50 U	50 U
Benzene	ug/L	0.41 J	0.41 J	0.45 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.62 J	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	2.8	5.2	1.6	0.97 J	0.32 J	1.0 U	2.2	2.5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.36 J	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	2.4	4.5	**5.9[ab]**	**5.4[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	**9.1[ab]**	**9.8[ab]**	**3.8[ab]**	**3.2[ab]**	1.0 U	1.0 U	1.2	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW38-12	MW38-12	MW38-12	MW38-12	MW39-12	MW39-12	MW39-12	MW39-12
Sample Identification:		WG-017360-102815-MR-041	WG-017360-040616-MR-011	WG-017360-101216-MR-038	WG-017360-041217-MR-036	GW-17360-102612-EB-032	WG-17360-050613-EB-045	WG-17360-110413-EB-051	WG-017360-042114-MR-049
Sample Date:		10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/26/2012	5/6/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW38-12	MW38-12	MW38-12	MW38-12	MW39-12	MW39-12	MW39-12	MW39-12
Sample Identification:		WG-017360-102815-MR-041	WG-017360-040616-MR-011	WG-017360-101216-MR-038	WG-017360-041217-MR-036	GW-17360-102612-EB-032	WG-17360-050613-EB-045	WG-17360-110413-EB-051	WG-017360-042114-MR-049
Sample Date:		10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/26/2012	5/6/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	1.0 U	0.14 J	0.076 J	0.11 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	0.40 J	5 U	5 U	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	75	72	65	55
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	1.0 U	2 U	2 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	0.20 U	0.062 J	0.6 J	0.15 J
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	1.0 U	1.3 J	5 U	5 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	4.4	5.2	11	11
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	1.2	2.1 J	6.4	9.2
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	30	--	--	--
Lead	ug/L	--	--	--	--	1.0 U	0.82 J	0.35 J	0.23 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	**54[ab]**	**68[ab]**	**150[ab]**	**230[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	0.20 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	6.3	3.4 J	6.1	7.2
Nickel	ug/L	--	--	--	--	3.2	4.8 J	9.7	8.1
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	1.0 U	5 U	1.1 J	5 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	0.20 U	5 U	5 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	1.0 U	5 U	5 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	0.79 J	0.44 J	0.37 J	5 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	3.8 J	9.6 J	3.8 J	10 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW38-12	MW38-12	MW38-12	MW38-12	MW39-12	MW39-12	MW39-12	MW39-12
Sample Identification:		WG-017360-102815-MR-041	WG-017360-040616-MR-011	WG-017360-101216-MR-038	WG-017360-041217-MR-036	GW-17360-102612-EB-032	WG-17360-050613-EB-045	WG-17360-110413-EB-051	WG-017360-042114-MR-049
Sample Date:		10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/26/2012	5/6/2013	11/4/2013	4/21/2014
Sample Type:									
Segment_Depth		(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(20-30) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS	(35.4-40.4) ft BGS
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12
Sample Identification:		GW-17360-102612-EB-030	WG-17360-050713-EB-046	WG-17360-110413-EB-050	WG-017360-042114-MR-050	WG-017360-101314-MR-035	WG-017360-041315-MR-032	WG-017360-102715-MR-034	WG-017360-041816-MR-044
Sample Date:		10/26/2012	5/7/2013	11/4/2013	4/21/2014	10/13/2014	4/13/2015	10/27/2015	4/18/2016
Sample Type:									
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	2.1	2.6	1.5	1.5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.39 J
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.2	3.9	**7.2[ab]**	**5.6[ab]**	**7.2[ab]**	**7.2[ab]**	**6.0[ab]**	**5.3[ab]**
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12
Sample Identification:		GW-17360-102612-EB-030	WG-17360-050713-EB-046	WG-17360-110413-EB-050	WG-017360-042114-MR-050	WG-017360-101314-MR-035	WG-017360-041315-MR-032	WG-017360-102715-MR-034	WG-017360-041816-MR-044
Sample Date:		10/26/2012	5/7/2013	11/4/2013	4/21/2014	10/13/2014	4/13/2015	10/27/2015	4/18/2016
Sample Type:									
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12
Sample Identification:		GW-17360-102612-EB-030	WG-17360-050713-EB-046	WG-17360-110413-EB-050	WG-017360-042114-MR-050	WG-017360-101314-MR-035	WG-017360-041315-MR-032	WG-017360-102715-MR-034	WG-017360-041816-MR-044
Sample Date:		10/26/2012	5/7/2013	11/4/2013	4/21/2014	10/13/2014	4/13/2015	10/27/2015	4/18/2016
Sample Type:									
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12	MW40-12
Sample Identification:		GW-17360-102612-EB-030	WG-17360-050713-EB-046	WG-17360-110413-EB-050	WG-017360-042114-MR-050	WG-017360-101314-MR-035	WG-017360-041315-MR-032	WG-017360-102715-MR-034	WG-017360-041816-MR-044
Sample Date:		10/26/2012	5/7/2013	11/4/2013	4/21/2014	10/13/2014	4/13/2015	10/27/2015	4/18/2016
Sample Type:									
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101116-MR-029	WG-017360-101116-MR-030	WG-017360-041117-MR-029	GW-17360-102612-EB-029	WG-17360-050713-EB-047	WG-17360-110113-EB-039	WG-17360-110113-EB-040	WG-017360-042114-MR-051
Sample Date:		10/11/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/1/2013	11/1/2013	4/21/2014
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	3.9	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	2.4	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	2.2	2.3	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	4.0	3.8	4.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101116-MR-029	WG-017360-101116-MR-030	WG-017360-041117-MR-029	GW-17360-102612-EB-029	WG-17360-050713-EB-047	WG-17360-110113-EB-039	WG-17360-110113-EB-040	WG-017360-042114-MR-051
Sample Date:		10/11/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/1/2013	11/1/2013	4/21/2014
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101116-MR-029	WG-017360-101116-MR-030	WG-017360-041117-MR-029	GW-17360-102612-EB-029	WG-17360-050713-EB-047	WG-17360-110113-EB-039	WG-17360-110113-EB-040	WG-017360-042114-MR-051
Sample Date:		10/11/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/1/2013	11/1/2013	4/21/2014
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW40-12	MW40-12	MW40-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101116-MR-029	WG-017360-101116-MR-030	WG-017360-041117-MR-029	GW-17360-102612-EB-029	WG-17360-050713-EB-047	WG-17360-110113-EB-039	WG-17360-110113-EB-040	WG-017360-042114-MR-051
Sample Date:		10/11/2016	10/11/2016	4/11/2017	10/26/2012	5/7/2013	11/1/2013	11/1/2013	4/21/2014
Sample Type:			Duplicate					Duplicate	
Segment_Depth		(45-50) ft BGS	(45-50) ft BGS	(45-50) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101314-MR-036	WG-017360-041315-MR-029	WG-017360-102715-MR-035	WG-017360-102715-MR-036	WG-017360-041816-MR-043	WG-017360-101116-MR-031	WG-017360-041117-MR-030
Sample Date:		10/13/2014	4/13/2015	10/27/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101314-MR-036	WG-017360-041315-MR-029	WG-017360-102715-MR-035	WG-017360-102715-MR-036	WG-017360-041816-MR-043	WG-017360-101116-MR-031	WG-017360-041117-MR-030
Sample Date:		10/13/2014	4/13/2015	10/27/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101314-MR-036	WG-017360-041315-MR-029	WG-017360-102715-MR-035	WG-017360-102715-MR-036	WG-017360-041816-MR-043	WG-017360-101116-MR-031	WG-017360-041117-MR-030
Sample Date:		10/13/2014	4/13/2015	10/27/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12	MW41-12
Sample Identification:		WG-017360-101314-MR-036	WG-017360-041315-MR-029	WG-017360-102715-MR-035	WG-017360-102715-MR-036	WG-017360-041816-MR-043	WG-017360-101116-MR-031	WG-017360-041117-MR-030
Sample Date:		10/13/2014	4/13/2015	10/27/2015	10/27/2015	4/18/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS	(18.3-28.3) ft BGS
AOI		AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11	AOI 11
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12
Sample Identification:		GW-17360-121217-SK-007	GW-17360-102612-EB-031	WG-17360-050613-EB-044	WG-17360-110413-EB-048	WG-017360-042214-MR-054	WG-017360-101314-MR-034	WG-017360-041415-MR-040	WG-017360-102815-MR-039
Sample Date:		12/12/2017	10/26/2012	5/6/2013	11/4/2013	4/22/2014	10/13/2014	4/14/2015	10/28/2015
Sample Type:									
Segment_Depth		(18.3-28.3) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS
AOI		AOI 11	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	2.0 U	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	5.0 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	--	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	5.0 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	--	5.0 U	4.6 J	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	--	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	--	0.96 J	1.0 U	1.3	1.0 U	1.0 U	1.4	2.1
Toluene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	--	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12
Sample Identification:		GW-17360-121217-SK-007	GW-17360-102612-EB-031	WG-17360-050613-EB-044	WG-17360-110413-EB-048	WG-017360-042214-MR-054	WG-017360-101314-MR-034	WG-017360-041415-MR-040	WG-017360-102815-MR-039
Sample Date:		12/12/2017	10/26/2012	5/6/2013	11/4/2013	4/22/2014	10/13/2014	4/14/2015	10/28/2015
Sample Type:									
Segment_Depth		(18.3-28.3) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS
AOI		AOI 11	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	0.1	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	0.0022 U	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	0.065	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	0.013	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12
Sample Identification:		GW-17360-121217-SK-007	GW-17360-102612-EB-031	WG-17360-050613-EB-044	WG-17360-110413-EB-048	WG-017360-042214-MR-054	WG-017360-101314-MR-034	WG-017360-041415-MR-040	WG-017360-102815-MR-039
Sample Date:		12/12/2017	10/26/2012	5/6/2013	11/4/2013	4/22/2014	10/13/2014	4/14/2015	10/28/2015
Sample Type:									
Segment_Depth		(18.3-28.3) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS
AOI		AOI 11	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	0.19	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	0.0021 U	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	0.0021 U	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	0.021 U	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW41-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12	MW42-12
Sample Identification:		GW-17360-121217-SK-007	GW-17360-102612-EB-031	WG-17360-050613-EB-044	WG-17360-110413-EB-048	WG-017360-042214-MR-054	WG-017360-101314-MR-034	WG-017360-041415-MR-040	WG-017360-102815-MR-039
Sample Date:		12/12/2017	10/26/2012	5/6/2013	11/4/2013	4/22/2014	10/13/2014	4/14/2015	10/28/2015
Sample Type:									
Segment_Depth		(18.3-28.3) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS
AOI		AOI 11	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1	AOI 16.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW42-12	MW42-12	MW42-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12
Sample Identification:		WG-017360-041116-MR-025	WG-017360-101216-MR-036	WG-017360-041217-MR-034	GW-17360-102312-DD-004	WG-17360-050313-MR-030	WG-17360-050313-MR-033	WG-17360-110413-EB-049	WG-017360-042214-MR-055
Sample Date:		4/11/2016	10/12/2016	4/12/2017	10/23/2012	5/3/2013	5/3/2013	11/4/2013	4/22/2014
Sample Type:							Duplicate		
Segment_Depth		(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS
AOI		AOI 16.1	AOI 16.1	AOI 16.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	5.0 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	1.4	1.0 U	2.0	1.8 J	4.4 J	2.7	1.2
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW42-12	MW42-12	MW42-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12
Sample Identification:		WG-017360-041116-MR-025	WG-017360-101216-MR-036	WG-017360-041217-MR-034	GW-17360-102312-DD-004	WG-17360-050313-MR-030	WG-17360-050313-MR-033	WG-17360-110413-EB-049	WG-017360-042214-MR-055
Sample Date:		4/11/2016	10/12/2016	4/12/2017	10/23/2012	5/3/2013	5/3/2013	11/4/2013	4/22/2014
Sample Type:							Duplicate		
Segment_Depth		(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS
AOI		AOI 16.1	AOI 16.1	AOI 16.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW42-12	MW42-12	MW42-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12
Sample Identification:		WG-017360-041116-MR-025	WG-017360-101216-MR-036	WG-017360-041217-MR-034	GW-17360-102312-DD-004	WG-17360-050313-MR-030	WG-17360-050313-MR-033	WG-17360-110413-EB-049	WG-017360-042214-MR-055
Sample Date:		4/11/2016	10/12/2016	4/12/2017	10/23/2012	5/3/2013	5/3/2013	11/4/2013	4/22/2014
Sample Type:							Duplicate		
Segment_Depth		(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS
AOI		AOI 16.1	AOI 16.1	AOI 16.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW42-12	MW42-12	MW42-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12
Sample Identification:		WG-017360-041116-MR-025	WG-017360-101216-MR-036	WG-017360-041217-MR-034	GW-17360-102312-DD-004	WG-17360-050313-MR-030	WG-17360-050313-MR-033	WG-17360-110413-EB-049	WG-017360-042214-MR-055
Sample Date:		4/11/2016	10/12/2016	4/12/2017	10/23/2012	5/3/2013	5/3/2013	11/4/2013	4/22/2014
Sample Type:							Duplicate		
Segment_Depth		(21-31) ft BGS	(21-31) ft BGS	(21-31) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS
AOI		AOI 16.1	AOI 16.1	AOI 16.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW44-12
Sample Identification:		WG-017360-101414-MR-042	WG-017360-041415-MR-039	WG-017360-102815-MR-043	WG-017360-040616-MR-010	WG-017360-101216-MR-039	WG-017360-041217-MR-037	GW-17360-102312-DD-007
Sample Date:		10/14/2014	4/14/2015	10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/23/2012
Sample Type:								
Segment_Depth		(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.1
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 J
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	5.0 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.24 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.1
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.46 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3.2
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.8	3.8	3.4	2.9	3.4	2.6	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.88 J	1.0	0.83 J	1.0 U	1.0 U	0.35 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.9 J
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	0.50 U
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	0.50 U
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	0.50 U
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	0.50 U
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	1.0 U
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	5.0 U
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	0.50 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
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Sample Location:		MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW44-12
Sample Identification:		WG-017360-101414-MR-042	WG-017360-041415-MR-039	WG-017360-102815-MR-043	WG-017360-040616-MR-010	WG-017360-101216-MR-039	WG-017360-041217-MR-037	GW-17360-102312-DD-007
Sample Date:		10/14/2014	4/14/2015	10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/23/2012
Sample Type:								
Segment_Depth		(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	0.50 U
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	0.50 U
2-Chlorophenol	ug/L	--	--	--	--	--	--	0.50 U
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	0.50 U
2-Methylphenol	ug/L	--	--	--	--	--	--	0.70
2-Nitroaniline	ug/L	--	--	--	--	--	--	0.50 U
2-Nitrophenol	ug/L	--	--	--	--	--	--	0.50 U
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	R
3-Nitroaniline	ug/L	--	--	--	--	--	--	R
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	5.0 U
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	0.50 U
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	0.50 U
4-Chloroaniline	ug/L	--	--	--	--	--	--	1.0 U
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	0.50 U
4-Methylphenol	ug/L	--	--	--	--	--	--	0.50 U
4-Nitroaniline	ug/L	--	--	--	--	--	--	R
4-Nitrophenol	ug/L	--	--	--	--	--	--	5.0 U
Acenaphthene	ug/L	--	--	--	--	--	--	0.50 U
Acenaphthylene	ug/L	--	--	--	--	--	--	0.50 U
Acetophenone	ug/L	--	--	--	--	--	--	0.50 U
Anthracene	ug/L	--	--	--	--	--	--	0.50 U
Atrazine	ug/L	--	--	--	--	--	--	0.50 U
Benzaldehyde	ug/L	--	--	--	--	--	--	0.50 U
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	0.50 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	0.50 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	0.50 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	0.50 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	0.50 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	0.50 U
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	0.50 U
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	0.50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	0.56
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	1.0 U
Caprolactam	ug/L	--	--	--	--	--	--	1.0 U
Carbazole	ug/L	--	--	--	--	--	--	0.50 U
Chrysene	ug/L	--	--	--	--	--	--	0.50 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	0.50 U
Dibenzofuran	ug/L	--	--	--	--	--	--	0.50 U
Diethyl phthalate	ug/L	--	--	--	--	--	--	1.9
Dimethyl phthalate	ug/L	--	--	--	--	--	--	0.50 U
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	1.0 U
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	0.50 U
Fluoranthene	ug/L	--	--	--	--	--	--	0.50 U
Fluorene	ug/L	--	--	--	--	--	--	0.50 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--	0.50 U
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	0.50 U
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	0.50 U
Hexachloroethane	ug/L	--	--	--	--	--	--	0.50 U
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	0.50 U
Isophorone	ug/L	--	--	--	--	--	--	0.50 U
Naphthalene	ug/L	--	--	--	--	--	--	1.7
Nitrobenzene	ug/L	--	--	--	--	--	--	0.50 U
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	0.50 U
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	0.50 U
Pentachlorophenol	ug/L	--	--	--	--	--	--	0.50 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW44-12
Sample Identification:		WG-017360-101414-MR-042	WG-017360-041415-MR-039	WG-017360-102815-MR-043	WG-017360-040616-MR-010	WG-017360-101216-MR-039	WG-017360-041217-MR-037	GW-17360-102312-DD-007
Sample Date:		10/14/2014	4/14/2015	10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/23/2012
Sample Type:								
Segment_Depth		(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	0.50 U
Phenol	ug/L	--	--	--	--	--	--	0.50 U
Pyrene	ug/L	--	--	--	--	--	--	0.50 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	0.20 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	**24[abc]**
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	190
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	0.20 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	0.25 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	2.8
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	1.8
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	**6000[ab]**
Lead	ug/L	--	--	--	--	--	--	0.46 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	**300[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	0.20 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	1.4
Nickel	ug/L	--	--	--	--	--	--	8.4
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	0.45 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	1.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	0.51 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	13
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW43-12	MW44-12
Sample Identification:		WG-017360-101414-MR-042	WG-017360-041415-MR-039	WG-017360-102815-MR-043	WG-017360-040616-MR-010	WG-017360-101216-MR-039	WG-017360-041217-MR-037	GW-17360-102312-DD-007
Sample Date:		10/14/2014	4/14/2015	10/28/2015	4/6/2016	10/12/2016	4/12/2017	10/23/2012
Sample Type:								
Segment_Depth		(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(15-25) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12
Sample Identification:		WG-17360-050313-MR-032	WG-17360-110513-MR-058	WG-017360-042314-MR-063	WG-017360-101514-MR-047	WG-017360-041515-MR-047	WG-017360-102915-MR-045	WG-017360-041116-MR-024
Sample Date:		5/3/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015	10/29/2015	4/11/2016
Sample Type:								
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	5.0 U	1.9	1.0 U	0.83 J	1.6	1.5	1.0 U
1,2-Dichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	120 U	19 J	17 J	25 U	1.4 J	25 U	25 U
2-Hexanone	ug/L	250 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	15 J	50 U	8.7 J	5.8 J	2.6 J	2.2 J	50 U
Acetone	ug/L	250 U	50 U	40 J	50 U	50 U	50 U	50 U
Benzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	25 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	25 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	5.0 U	2.5	1.2	1.5	1.7	1.2	1.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5.0 U	1.7	2.0	1.4	1.5	2.5 J	0.90 J
Isopropyl benzene	ug/L	25 U	2.4 J	3.1 J	2.0 J	2.0 J	2.8 J	1.8 J
Methyl acetate	ug/L	50 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Trichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	15 U	3.4	9.5	4.7	4.7	8.7	4.2
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2,4,6-Trichlorophenol	ug/L	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	5.0 U	5.0 U	5.6 U
2,4-Dimethylphenol	ug/L	5.0 U	2.0 J	4.2 J	3.6 J	2.0 J	3.8 J	5.6 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12
Sample Identification:		WG-17360-050313-MR-032	WG-17360-110513-MR-058	WG-017360-042314-MR-063	WG-017360-101514-MR-047	WG-017360-041515-MR-047	WG-017360-102915-MR-045	WG-017360-041116-MR-024
Sample Date:		5/3/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015	10/29/2015	4/11/2016
Sample Type:								
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
2-Methylphenol	ug/L	5.0 U	5.0 U	2.3 J	1.5 J	5.0 U	5.0 U	1.0 J
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
3&4-Methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U	2.1 J
3,3'-Dichlorobenzidine	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	R	5.6 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
4-Chloroaniline	ug/L	10 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
4-Methylphenol	ug/L	5.0 U	5.0 U	8.9	1.2 J	--	--	--
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Acetophenone	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Atrazine	ug/L	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U
Benzaldehyde	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U
Benzo(a)anthracene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Benzo(a)pyrene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Benzo(b)fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Benzo(g,h,i)perylene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Benzo(k)fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.0 U	0.15 J	5.0 U	5.0 U	5.6 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
bis(2-Chloroethyl)ether	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Caprolactam	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	11 U
Carbazole	ug/L	10 U	1.2 J	10 U	10 U	5.0 U	5.0 U	5.6 U
Chrysene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Dibenz(a,h)anthracene	ug/L	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Dibenzofuran	ug/L	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Diethyl phthalate	ug/L	5.0 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
Dimethyl phthalate	ug/L	5.0 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Hexachlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Hexachlorobutadiene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Hexachlorocyclopentadiene	ug/L	5.0 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Naphthalene	ug/L	5.0 U	1.1 J	2.8 J	2.3 J	0.48 J	2.5 J	5.6 U
Nitrobenzene	ug/L	3.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Pentachlorophenol	ug/L	1.0 U	20 U	20 U	20 U	5.0 U	5.0 U	5.6 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12
Sample Identification:		WG-17360-050313-MR-032	WG-17360-110513-MR-058	WG-017360-042314-MR-063	WG-017360-101514-MR-047	WG-017360-041515-MR-047	WG-017360-102915-MR-045	WG-017360-041116-MR-024
Sample Date:		5/3/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015	10/29/2015	4/11/2016
Sample Type:								
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	5.0 U	5.0 U	1.7 J	5.0 U	5.0 U	5.6 U
Phenol	ug/L	5.0 U	5.0 U	23	5.0 U	5.0 U	5.0 U	9.2
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	0.75 J	0.16 J	0.54 J	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	**12**[abc]	**39**[abc]	**16**[abc]	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	42	100	38	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	2 U	2 U	2 U	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	0.28 J	0.72 J	2 U	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	0.43 J	0.47 J	0.7 J	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	5.7	2.1 J	2.1 J	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	21	3.9 J	20	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	**5.2**[ab]	0.84 J	**11**[ab]	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	**640**[ab]	**270**[ab]	**200**[ab]	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	0.2 U	0.2 U	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	27	3 J	**110**[a]	--	--	--	--
Nickel	ug/L	19	16	12	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	1.2 J	0.7 J	5 U	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	5 U	5 U	5 U	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	5 U	0.29 J	5 U	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	0.65 J	0.54 J	**6.5**[a]	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	6.8 J	10 U	12	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12	MW44-12
Sample Identification:		WG-17360-050313-MR-032	WG-17360-110513-MR-058	WG-017360-042314-MR-063	WG-017360-101514-MR-047	WG-017360-041515-MR-047	WG-017360-102915-MR-045	WG-017360-041116-MR-024
Sample Date:		5/3/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015	10/29/2015	4/11/2016
Sample Type:								
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-101316-MR-043	WG-017360-041317-MR-045	GW-17360-121217-SK-001	GW-17360-102312-DD-005	GW-17360-102312-DD-006	WG-17360-050313-MR-031	WG-17360-110513-MR-060
Sample Date:		10/13/2016	4/13/2017	12/12/2017	10/23/2012	10/23/2012	5/3/2013	11/5/2013
Sample Type:						Duplicate		
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	0.39 J	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	120 U	2.8 J	--	5.0 U	5.0 U	25 U	25 U
2-Hexanone	ug/L	250 U	50 U	--	5.0 U	5.0 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	2.8 J	0.69 J	--	5.0 U	5.0 U	50 U	50 U
Acetone	ug/L	9.2 J	8.5 J	--	5.0 U	5.0 U	50 U	50 U
Benzene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	25 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	2.3 J	0.86 J	--	0.30 J	0.29 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5.0 U	0.67 J	--	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	2.2 J	1.6 J	--	1.0 U	1.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	50 U	10 U	--	5.0 U	5.0 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	25 U	5.0 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Styrene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5.0 U	1.0 U	--	1.2	1.2	1.9	1.9
Toluene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5.0 U	1.0 U	--	0.60 J	0.60 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	5.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	15 U	2.4 J	--	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	4.0 U	5.0 U
2,4-Dichlorophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	10 U	10 U
2,4-Dimethylphenol	ug/L	3.8 J	2.8 J	--	1.0 U	1.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.4 U	5.5 U	--	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-101316-MR-043	WG-017360-041317-MR-045	GW-17360-121217-SK-001	GW-17360-102312-DD-005	GW-17360-102312-DD-006	WG-17360-050313-MR-031	WG-17360-110513-MR-060
Sample Date:		10/13/2016	4/13/2017	12/12/2017	10/23/2012	10/23/2012	5/3/2013	11/5/2013
Sample Type:						Duplicate		
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.4 U	0.88 J	--	0.50 U	0.50 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	20 U	20 U
2-Nitrophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	5.4 U	0.97 J	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.4 U	5.5 U	--	R	R	1.0 U	5.0 U
3-Nitroaniline	ug/L	5.4 U	5.5 U	--	R	R	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	5.4 U	5.5 U	--	5.0 U	5.0 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	5.4 U	5.5 U	--	1.0 U	1.0 U	10 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	--	--	0.50 U	0.50 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	5.4 U	5.5 U	--	R	R	20 U	20 U
4-Nitrophenol	ug/L	5.4 U	5.5 U	--	5.0 U	5.0 U	20 U	20 U
Acenaphthene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Acenaphthylene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Acetophenone	ug/L	1.1 U	1.1 U	--	0.50 U	0.50 U	1.0 U	1.0 U
Anthracene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Atrazine	ug/L	1.1 U	1.1 U	--	0.50 U	0.50 U	3.0 U	1.0 U
Benzaldehyde	ug/L	1.1 U	1.1 U	--	0.50 U	0.50 U	1.0 U	1.0 U
Benzo(a)anthracene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Benzo(a)pyrene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.4 U	5.5 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Caprolactam	ug/L	11 U	11 U	--	1.0 U	1.0 U	10 U	10 U
Carbazole	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	10 U	10 U
Chrysene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	2.0 U	5.0 U
Dibenzofuran	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	4.0 U	5.0 U
Diethyl phthalate	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	20 U
Dimethyl phthalate	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	20 U
Di-n-butylphthalate (DBP)	ug/L	5.4 U	5.5 U	--	1.0 U	1.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Fluorene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	20 U
Hexachloroethane	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	2.0 U	5.0 U
Isophorone	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Naphthalene	ug/L	0.91 J	0.65 J	--	0.50 U	0.50 U	5.0 U	5.0 U
Nitrobenzene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	3.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	1.0 U	20 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-101316-MR-043	WG-017360-041317-MR-045	GW-17360-121217-SK-001	GW-17360-102312-DD-005	GW-17360-102312-DD-006	WG-17360-050313-MR-031	WG-17360-110513-MR-060
Sample Date:		10/13/2016	4/13/2017	12/12/2017	10/23/2012	10/23/2012	5/3/2013	11/5/2013
Sample Type:						Duplicate		
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	2.0 U	5.0 U
Phenol	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Pyrene	ug/L	5.4 U	5.5 U	--	0.50 U	0.50 U	5.0 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	0.36 J	1.0 U	0.16 J	0.11 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	1.1	1.0	0.64 J	1.9 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	80	83	55	120
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	1.0 U	1.0 U	2 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	0.20 U	0.20 U	0.061 J	1 J
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	1.0 U	1.0 U	5 U	0.45 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	1.3	1.3	2.9 J	0.9 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	0.98 J	1.2	11	2.7 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	**590[ab]**	**550[ab]**	--	--
Lead	ug/L	--	--	--	0.22 J	0.38 J	0.43 J	5 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	**220[ab]**	**230[ab]**	**910[ab]**	**390[ab]**
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	0.20 U	0.20 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	0.33 J	0.34 J	1.4 J	1.8 J
Nickel	ug/L	--	--	--	3.1	3.3	8.7	16
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	1.0 U	1.0 U	2.9 J	0.71 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	0.20 U	0.20 U	5 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	1.0 U	1.0 U	5 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	0.40 J	0.40 J	0.18 J	5 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	6.2 J	23 J	1.8 J	10 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW44-12	MW44-12	MW44-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-101316-MR-043	WG-017360-041317-MR-045	GW-17360-121217-SK-001	GW-17360-102312-DD-005	GW-17360-102312-DD-006	WG-17360-050313-MR-031	WG-17360-110513-MR-060
Sample Date:		10/13/2016	4/13/2017	12/12/2017	10/23/2012	10/23/2012	5/3/2013	11/5/2013
Sample Type:						Duplicate		
Segment_Depth		(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(18.5-28.5) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6, AOI 25, AOI 19, AOI 4.1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-042314-MR-064	WG-017360-101514-MR-048	WG-017360-041515-MR-048	WG-017360-102815-MR-044	WG-017360-041116-MR-022	WG-017360-041116-MR-023	WG-017360-101216-MR-042
Sample Date:		4/23/2014	10/15/2014	4/15/2015	10/28/2015	4/11/2016	4/11/2016	10/12/2016
Sample Type:							Duplicate	
Segment_Depth		(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	4.0 J	50 U	50 U	50 U	50 U	8.1 J	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.51 J	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	3.0	1.0 U	2.3	1.6	1.6	1.8	2.0 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.96 J	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2,4,6-Trichlorophenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2,4-Dichlorophenol	ug/L	10 U	11 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2,4-Dimethylphenol	ug/L	5.0 U	5.4 U	5.0 U	0.41 J	5.4 U	5.5 U	5.3 U
2,4-Dinitrophenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-042314-MR-064	WG-017360-101514-MR-048	WG-017360-041515-MR-048	WG-017360-102815-MR-044	WG-017360-041116-MR-022	WG-017360-041116-MR-023	WG-017360-101216-MR-042
Sample Date:		4/23/2014	10/15/2014	4/15/2015	10/28/2015	4/11/2016	4/11/2016	10/12/2016
Sample Type:							Duplicate	
Segment_Depth		(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Chloronaphthalene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Chlorophenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Methylnaphthalene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Methylphenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Nitroaniline	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
2-Nitrophenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
3&4-Methylphenol	ug/L	--	--	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 UJ
3-Nitroaniline	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Chloroaniline	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Methylphenol	ug/L	5.0 U	5.4 U	--	--	--	--	--
4-Nitroaniline	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
4-Nitrophenol	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Acenaphthene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Acenaphthylene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Acetophenone	ug/L	1.0 U	1.1 U	1.0 U	0.62 J	1.1 U	1.1 U	1.1 U
Anthracene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Atrazine	ug/L	1.0 U	1.1 U	1.0 U	1.0 U	1.1 U	1.1 U	1.1 U
Benzaldehyde	ug/L	1.0 U	1.1 U	1.0 U	1.0 U	1.1 U	1.1 U	1.1 U
Benzo(a)anthracene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Benzo(a)pyrene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Benzo(b)fluoranthene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Caprolactam	ug/L	10 U	11 U	10 U	10 U	11 U	11 U	11 U
Carbazole	ug/L	10 U	11 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Chrysene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Dibenz(a,h)anthracene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Dibenzofuran	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Diethyl phthalate	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Dimethyl phthalate	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Fluoranthene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Fluorene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Hexachlorobenzene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Hexachlorobutadiene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Hexachlorocyclopentadiene	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Hexachloroethane	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Isophorone	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Naphthalene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Nitrobenzene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Pentachlorophenol	ug/L	20 U	22 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-042314-MR-064	WG-017360-101514-MR-048	WG-017360-041515-MR-048	WG-017360-102815-MR-044	WG-017360-041116-MR-022	WG-017360-041116-MR-023	WG-017360-101216-MR-042
Sample Date:		4/23/2014	10/15/2014	4/15/2015	10/28/2015	4/11/2016	4/11/2016	10/12/2016
Sample Type:							Duplicate	
Segment_Depth		(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Phenol	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Pyrene	ug/L	5.0 U	5.4 U	5.0 U	5.0 U	5.4 U	5.5 U	5.3 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	0.19 J	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	1.2 J	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	77	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	2 U	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	2 U	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	0.27 J	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	1.5 J	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	2.7 J	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	0.55 J	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	**290[ab]**	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	3.9 J	--	--	--	--	--	--
Nickel	ug/L	5.6	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	5 U	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	5 U	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	5 U	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	0.71 J	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	2.4 J	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12	MW45-12
Sample Identification:		WG-017360-042314-MR-064	WG-017360-101514-MR-048	WG-017360-041515-MR-048	WG-017360-102815-MR-044	WG-017360-041116-MR-022	WG-017360-041116-MR-023	WG-017360-101216-MR-042
Sample Date:		4/23/2014	10/15/2014	4/15/2015	10/28/2015	4/11/2016	4/11/2016	10/12/2016
Sample Type:							Duplicate	
Segment_Depth		(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS	(19.1-29.1) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12
Sample Identification:		WG-017360-041317-MR-046	GW-17360-102312-DD-001	GW-17360-102312-DD-002	WG-17360-050713-EB-061	WG-17360-110513-EB-066	WG-017360-042314-MR-065	WG-017360-101514-MR-049	WG-017360-041515-MR-049
Sample Date:		4/13/2017	10/23/2012	10/23/2012	5/7/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015
Sample Type:				Duplicate					
Segment_Depth		(19.1-29.1) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS
AOI		AOI 6	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	5.0 U	--	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	5.0 U	--	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	5.0 U	--	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	4.1 J	5.0 U	--	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	5.0 U	--	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.52 J	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	5.4 U	0.50 U	--	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	5.4 U	0.50 U	--	10 U	10 U	10 U	0.50 J	5.0 U
2,4-Dimethylphenol	ug/L	5.4 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.4 U	5.0 U	--	5.0 U	5.0 U	5.0 U	3.9 J	5.0 U
2,4-Dinitrotoluene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12
Sample Identification:		WG-017360-041317-MR-046	GW-17360-102312-DD-001	GW-17360-102312-DD-002	WG-17360-050713-EB-061	WG-17360-110513-EB-066	WG-017360-042314-MR-065	WG-017360-101514-MR-049	WG-017360-041515-MR-049
Sample Date:		4/13/2017	10/23/2012	10/23/2012	5/7/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015
Sample Type:				Duplicate					
Segment_Depth		(19.1-29.1) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS
AOI		AOI 6	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	5.4 U	0.50 U	--	20 U	20 U	20 U	20 U	5.0 U
2-Nitrophenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	5.4 U	--	--	--	--	--	--	5.0 U
3,3'-Dichlorobenzidine	ug/L	R	R	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	5.4 U	R	--	20 U	20 U	20 U	20 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	5.4 U	5.0 U	--	20 U	20 U	20 U	20 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	5.4 U	1.0 U	--	10 U	20 U	20 U	20 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Nitroaniline	ug/L	5.4 U	R	--	20 U	20 U	20 U	20 U	5.0 U
4-Nitrophenol	ug/L	5.4 U	5.0 U	--	20 U	20 U	20 U	20 U	5.0 U
Acenaphthene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acenaphthylene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	1.1 U	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	1.1 U	0.50 U	--	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzaldehyde	ug/L	1.1 U	0.50 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)anthracene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	0.50 J	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.4 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	11 U	1.0 U	--	10 U	10 U	10 U	10 U	10 U
Carbazole	ug/L	5.4 U	0.50 U	--	10 U	10 U	10 U	10 U	5.0 U
Chrysene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	5.4 U	0.50 U	--	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	5.4 U	0.50 U	--	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.4 U	0.50 U	--	5.0 U	20 U	20 U	20 U	5.0 U
Dimethyl phthalate	ug/L	5.4 U	0.50 U	--	5.0 U	20 U	20 U	20 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.4 U	1.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.4 U	0.50 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.4 U	0.50 U	--	5.0 UJ	20 U	20 U	20 U	5.0 U
Hexachloroethane	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.4 U	0.50 U	--	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isophorone	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	5.4 U	0.50 U	--	3.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	5.4 U	0.50 U	--	1.0 U	20 U	20 U	20 U	5.0 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12
Sample Identification:		WG-017360-041317-MR-046	GW-17360-102312-DD-001	GW-17360-102312-DD-002	WG-17360-050713-EB-061	WG-17360-110513-EB-066	WG-017360-042314-MR-065	WG-017360-101514-MR-049	WG-017360-041515-MR-049
Sample Date:		4/13/2017	10/23/2012	10/23/2012	5/7/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015
Sample Type:				Duplicate					
Segment_Depth		(19.1-29.1) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS
AOI		AOI 6	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.4 U	0.50 U	--	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.4 U	0.50 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	0.72 J	--	0.16 J	0.052 J	0.16 J	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	0.22 J	--	5 U	5 U	5 U	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	44	--	23	48	33	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	0.12 J	--	2 U	2 U	2 U	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	0.051 J	--	0.46 J	0.93 J	0.11 J	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	1.2	--	0.83 J	1.1 J	0.64 J	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	20 U	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	5 U	20 U	20 U	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	1.1	1.2	--	--	--	--	--
Cobalt	ug/L	--	0.36 J	--	4.8 J	1.9 J	3.1 J	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	1.7	--	5.3	2.3 J	3.7 J	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	53	--	--	--	--	--	--
Lead	ug/L	--	0.28 J	--	0.2 J	5 U	0.14 J	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	4.1	--	1.1 J	6.3	21	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	0.20 U	--	0.2 U	0.2 U	0.2 U	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	0.33 J	--	0.9 J	0.31 J	3.3 J	--	--
Nickel	ug/L	--	2.0	--	10	12	7	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	1.4	--	3 J	1.6 J	5 U	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	0.20 U	--	5 U	5 U	5 U	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	1.0 U	--	5 U	5 U	5 U	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	0.48 J	--	5 U	5 U	0.27 J	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	20	--	8.7 J	10 U	3.7 J	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW45-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW46-12
Sample Identification:		WG-017360-041317-MR-046	GW-17360-102312-DD-001	GW-17360-102312-DD-002	WG-17360-050713-EB-061	WG-17360-110513-EB-066	WG-017360-042314-MR-065	WG-017360-101514-MR-049	WG-017360-041515-MR-049
Sample Date:		4/13/2017	10/23/2012	10/23/2012	5/7/2013	11/5/2013	4/23/2014	10/15/2014	4/15/2015
Sample Type:				Duplicate					
Segment_Depth		(19.1-29.1) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS
AOI		AOI 6	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW48-13	MW48-13	MW48-13
Sample Identification:		WG-017360-102815-MR-042	WG-017360-041116-MR-021	WG-017360-101216-MR-040	WG-017360-101216-MR-041	WG-017360-041317-MR-047	WG-17360-051313-EB-004	WG-17360-102913-MR-012	WG-017360-041614-MR-021
Sample Date:		10/28/2015	4/11/2016	10/12/2016	10/12/2016	4/13/2017	5/13/2013	10/29/2013	4/16/2014
Sample Type:					Duplicate				
Segment_Depth		(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 3	AOI 3	AOI 3
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	5.6 J	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.83 J	0.73 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4,5-Trichlorophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4,6-Trichlorophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4-Dichlorophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4-Dimethylphenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4-Dinitrophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2,4-Dinitrotoluene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW48-13	MW48-13	MW48-13
Sample Identification:		WG-017360-102815-MR-042	WG-017360-041116-MR-021	WG-017360-101216-MR-040	WG-017360-101216-MR-041	WG-017360-041317-MR-047	WG-17360-051313-EB-004	WG-17360-102913-MR-012	WG-017360-041614-MR-021
Sample Date:		10/28/2015	4/11/2016	10/12/2016	10/12/2016	4/13/2017	5/13/2013	10/29/2013	4/16/2014
Sample Type:					Duplicate				
Segment_Depth		(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 3	AOI 3	AOI 3
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Chloronaphthalene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Chlorophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Methylphenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Nitroaniline	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
2-Nitrophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
3&4-Methylphenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	R	5.5 U	5.4 U	5.0 U	--	--	--
3-Nitroaniline	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Chloro-3-methylphenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Chloroaniline	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
4-Nitrophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Acenaphthene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Acenaphthylene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Acetophenone	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--	--
Anthracene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Atrazine	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--	--
Benzaldehyde	ug/L	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Benzo(a)pyrene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Benzo(b)fluoranthene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Benzo(g,h,i)perylene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Benzo(k)fluoranthene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Caprolactam	ug/L	10 U	11 U	11 U	11 U	10 U	--	--	--
Carbazole	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Chrysene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Dibenz(a,h)anthracene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Dibenzofuran	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Diethyl phthalate	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Dimethyl phthalate	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Fluoranthene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Fluorene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Hexachlorobenzene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Hexachlorobutadiene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Hexachlorocyclopentadiene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Hexachloroethane	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Isophorone	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Naphthalene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Nitrobenzene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
N-Nitrosodiphenylamine	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Pentachlorophenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW48-13	MW48-13	MW48-13
Sample Identification:		WG-017360-102815-MR-042	WG-017360-041116-MR-021	WG-017360-101216-MR-040	WG-017360-101216-MR-041	WG-017360-041317-MR-047	WG-17360-051313-EB-004	WG-17360-102913-MR-012	WG-017360-041614-MR-021
Sample Date:		10/28/2015	4/11/2016	10/12/2016	10/12/2016	4/13/2017	5/13/2013	10/29/2013	4/16/2014
Sample Type:					Duplicate				
Segment_Depth		(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 3	AOI 3	AOI 3
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Phenol	ug/L	5.0 U	5.6 U	5.5 U	5.4 U	5.0 U	--	--	--
Pyrene	ug/L	5.0 U	5.6 U	5.5 U	0.076 J	5.0 U	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW46-12	MW46-12	MW46-12	MW46-12	MW46-12	MW48-13	MW48-13	MW48-13
Sample Identification:		WG-017360-102815-MR-042	WG-017360-041116-MR-021	WG-017360-101216-MR-040	WG-017360-101216-MR-041	WG-017360-041317-MR-047	WG-17360-051313-EB-004	WG-17360-102913-MR-012	WG-017360-041614-MR-021
Sample Date:		10/28/2015	4/11/2016	10/12/2016	10/12/2016	4/13/2017	5/13/2013	10/29/2013	4/16/2014
Sample Type:					Duplicate				
Segment_Depth		(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(20.2-30.2) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS
AOI		AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 6, AOI 25, AOI 4.1	AOI 3	AOI 3	AOI 3
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW49-13	MW49-13
Sample Identification:		WG-017360-101314-MR-026	WG-017360-040815-MR-019	WG-017360-102215-MR-018	WG-017360-041316-MR-028	WG-017360-100616-MR-015	WG-017360-040717-MR-016	WG-17360-051313-EB-005	WG-17360-103113-MR-031
Sample Date:		10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016	4/7/2017	5/13/2013	10/31/2013
Sample Type:									
Segment_Depth		(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 1	AOI 1
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.93 J	2.3	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.1 J	1.5 J	0.63 J	0.68 J	0.41 J	0.57 J	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**260[abc]**	**330[abc]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.2
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW49-13	MW49-13
Sample Identification:		WG-017360-101314-MR-026	WG-017360-040815-MR-019	WG-017360-102215-MR-018	WG-017360-041316-MR-028	WG-017360-100616-MR-015	WG-017360-040717-MR-016	WG-17360-051313-EB-005	WG-17360-103113-MR-031
Sample Date:		10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016	4/7/2017	5/13/2013	10/31/2013
Sample Type:									
Segment_Depth		(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 1	AOI 1
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW49-13	MW49-13
Sample Identification:		WG-017360-101314-MR-026	WG-017360-040815-MR-019	WG-017360-102215-MR-018	WG-017360-041316-MR-028	WG-017360-100616-MR-015	WG-017360-040717-MR-016	WG-17360-051313-EB-005	WG-17360-103113-MR-031
Sample Date:		10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016	4/7/2017	5/13/2013	10/31/2013
Sample Type:									
Segment_Depth		(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 1	AOI 1
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW48-13	MW49-13	MW49-13
Sample Identification:		WG-017360-101314-MR-026	WG-017360-040815-MR-019	WG-017360-102215-MR-018	WG-017360-041316-MR-028	WG-017360-100616-MR-015	WG-017360-040717-MR-016	WG-17360-051313-EB-005	WG-17360-103113-MR-031
Sample Date:		10/13/2014	4/8/2015	10/22/2015	4/13/2016	10/6/2016	4/7/2017	5/13/2013	10/31/2013
Sample Type:									
Segment_Depth		(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(46-51) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 3	AOI 1	AOI 1
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13
Sample Identification:		WG-017360-041714-MR-029	WG-017360-041714-MR-030	WG-017360-100914-MR-020	WG-017360-040915-MR-021	WG-017360-102615-MR-022	WG-017360-102615-MR-023	WG-017360-041416-MR-036
Sample Date:		4/17/2014	4/17/2014	10/9/2014	4/9/2015	10/26/2015	10/26/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	2.2	2.2	1.4	1.9	1.0 U	1.0 U	0.85 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**170[abc]**	**170[abc]**	**220[abc]**	**240[abc]**	**200[abc]**	**200[abc]**	**170[abc]**
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.3	1.3	1.8	2.2	1.8	2.0	3.3
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13
Sample Identification:		WG-017360-041714-MR-029	WG-017360-041714-MR-030	WG-017360-100914-MR-020	WG-017360-040915-MR-021	WG-017360-102615-MR-022	WG-017360-102615-MR-023	WG-017360-041416-MR-036
Sample Date:		4/17/2014	4/17/2014	10/9/2014	4/9/2015	10/26/2015	10/26/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13
Sample Identification:		WG-017360-041714-MR-029	WG-017360-041714-MR-030	WG-017360-100914-MR-020	WG-017360-040915-MR-021	WG-017360-102615-MR-022	WG-017360-102615-MR-023	WG-017360-041416-MR-036
Sample Date:		4/17/2014	4/17/2014	10/9/2014	4/9/2015	10/26/2015	10/26/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13	MW49-13
Sample Identification:		WG-017360-041714-MR-029	WG-017360-041714-MR-030	WG-017360-100914-MR-020	WG-017360-040915-MR-021	WG-017360-102615-MR-022	WG-017360-102615-MR-023	WG-017360-041416-MR-036
Sample Date:		4/17/2014	4/17/2014	10/9/2014	4/9/2015	10/26/2015	10/26/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1	AOI 1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW50-12	MW50-12	MW50-12	MW50-12
Sample Identification:		WG-017360-101016-MR-023	WG-017360-041217-MR-038	GW-17360-121217-SK-002	GW-17360-121217-SK-003	GW-17360-110212-BW-201	WG-17360-050313-MR-034	WG-17360-110513-MR-059	WG-017360-042314-MR-062
Sample Date:		10/10/2016	4/12/2017	12/12/2017	12/12/2017	11/2/2012	5/3/2013	11/5/2013	4/23/2014
Sample Type:					Duplicate				
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	2.0 U	2.0 U	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	--	--	2.6 J	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	--	--	5.0 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	--	--	5.0 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	--	--	12 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	--	3.1	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	--	--	0.34 J	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	--	1.5	1.0 U	0.65 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	--	--	5.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	--	--	0.54 J	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	--	--	4.6	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	--	--	5.0 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	--	--	5.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	--	--	1.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	**280**[abc]	**190**[abc]	--	--	0.60 J	4.2	**5.3**[ab]	2.9
Toluene	ug/L	1.0 U	1.0 U	--	--	0.29 J	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	3.0	3.0	--	--	0.42 J	1.4	1.1	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	--	--	15	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	--	--	--	--	5.0 U	4.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	--	--	--	--	5.0 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	--	--	--	--	10 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	--	--	--	--	50 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW50-12	MW50-12	MW50-12	MW50-12
Sample Identification:		WG-017360-101016-MR-023	WG-017360-041217-MR-038	GW-17360-121217-SK-002	GW-17360-121217-SK-003	GW-17360-110212-BW-201	WG-17360-050313-MR-034	WG-17360-110513-MR-059	WG-017360-042314-MR-062
Sample Date:		10/10/2016	4/12/2017	12/12/2017	12/12/2017	11/2/2012	5/3/2013	11/5/2013	4/23/2014
Sample Type:					Duplicate				
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	--	--	--	--	5.0 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	10 U	1.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	--	--	--	--	10 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	50 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	--	--	--	--	10 U	10 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	--	--	--	--	10 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	--	--	--	--	50 U	20 U	20 U	20 U
Acenaphthene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Acenaphthylene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	--	--	--	--	5.0 U	1.0 U	1.0 U	1.0 U
Anthracene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	--	--	--	--	5.0 U	3.0 U	1.0 U	1.0 U
Benzaldehyde	ug/L	--	--	--	--	5.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)anthracene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	0.28 J
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	10 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	--	--	--	--	10 UJ	10 U	10 U	10 U
Carbazole	ug/L	--	--	--	--	5.0 U	10 U	10 U	10 U
Chrysene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	5.0 U	2.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	--	--	--	--	5.0 U	4.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	--	--	--	--	5.0 U	5.0 U	20 U	20 U
Dimethyl phthalate	ug/L	--	--	--	--	5.0 U	5.0 U	20 U	20 U
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	10 U	5.0 U	5.0 U	0.29 J
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Fluorene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	0.16 J
Hexachlorobenzene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	--	--	--	--	5.0 U	1.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	--	--	--	--	5.0 U	5.0 U	20 U	20 U
Hexachloroethane	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	5.0 U	2.0 U	5.0 U	5.0 U
Isophorone	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	--	--	--	--	5.0 U	3.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	--	--	--	--	5.0 U	1.0 U	20 U	20 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW50-12	MW50-12	MW50-12	MW50-12
Sample Identification:		WG-017360-101016-MR-023	WG-017360-041217-MR-038	GW-17360-121217-SK-002	GW-17360-121217-SK-003	GW-17360-110212-BW-201	WG-17360-050313-MR-034	WG-17360-110513-MR-059	WG-017360-042314-MR-062
Sample Date:		10/10/2016	4/12/2017	12/12/2017	12/12/2017	11/2/2012	5/3/2013	11/5/2013	4/23/2014
Sample Type:					Duplicate				
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	5.0 U	2.0 U	5.0 U	5.0 U
Phenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	--	--	--	--	5.0 U	5.0 U	5.0 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW49-13	MW49-13	MW49-13	MW49-13	MW50-12	MW50-12	MW50-12	MW50-12
Sample Identification:		WG-017360-101016-MR-023	WG-017360-041217-MR-038	GW-17360-121217-SK-002	GW-17360-121217-SK-003	GW-17360-110212-BW-201	WG-17360-050313-MR-034	WG-17360-110513-MR-059	WG-017360-042314-MR-062
Sample Date:		10/10/2016	4/12/2017	12/12/2017	12/12/2017	11/2/2012	5/3/2013	11/5/2013	4/23/2014
Sample Type:					Duplicate				
Segment_Depth		(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(34-39) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 1	AOI 1	AOI 1	AOI 1	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Total PCBs	ug/L	--	--	--	--	0	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW51-12
Sample Identification:		WG-017360-101514-MR-046	WG-017360-041515-MR-046	WG-017360-102915-MR-046	WG-017360-041416-MR-039	WG-017360-101316-MR-044	WG-017360-041317-MR-044	GW-17360-110212-BW-200
Sample Date:		10/15/2014	4/15/2015	10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012
Sample Type:								
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	8.6
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	5.0 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	3.1 J	61
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.24 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.27 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.9	1.3	1.1	0.52 J	6.3
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.45 J
cis-1,2-Dichloroethene	ug/L	0.97 J	1.6	2.2	0.85 J	1.7	0.70 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.89 J
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	4.4	4.0	3.8	3.7	4.5	3.1	2.1
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.44 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.3	1.2	0.99 J	1.0 U	1.2	0.81 J	0.44 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	0.99 J	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	0.68 J	2.0 J	3.0 U	4.0	3.0 U	10
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2,4,5-Trichlorophenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2,4,6-Trichlorophenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2,4-Dichlorophenol	ug/L	11 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2,4-Dimethylphenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	25 U
2,4-Dinitrotoluene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW51-12
Sample Identification:		WG-017360-101514-MR-046	WG-017360-041515-MR-046	WG-017360-102915-MR-046	WG-017360-041416-MR-039	WG-017360-101316-MR-044	WG-017360-041317-MR-044	GW-17360-110212-BW-200
Sample Date:		10/15/2014	4/15/2015	10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012
Sample Type:								
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Chloronaphthalene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Chlorophenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Methylnaphthalene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Methylphenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Nitroaniline	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
2-Nitrophenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
3&4-Methylphenol	ug/L	--	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	--
3,3'-Dichlorobenzidine	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	25 U
4-Bromophenyl phenyl ether	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
4-Chloro-3-methylphenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
4-Chloroaniline	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
4-Methylphenol	ug/L	5.4 U	--	--	--	--	--	2.5 U
4-Nitroaniline	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
4-Nitrophenol	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	25 U
Acenaphthene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Acenaphthylene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Acetophenone	ug/L	1.1 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	2.5 U
Anthracene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Atrazine	ug/L	1.1 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	2.5 U
Benzaldehyde	ug/L	1.1 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	2.5 U
Benzo(a)anthracene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Benzo(a)pyrene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Benzo(b)fluoranthene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Benzo(g,h,i)perylene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Benzo(k)fluoranthene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Biphenyl (1,1-Biphenyl)	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
bis(2-Chloroethoxy)methane	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
bis(2-Chloroethyl)ether	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.88 J	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Butyl benzylphthalate (BBP)	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	5.0 U
Caprolactam	ug/L	11 U	10 U	10 U	11 U	11 U	10 U	5.0 UJ
Carbazole	ug/L	11 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Chrysene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Dibenz(a,h)anthracene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Dibenzofuran	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	0.59 J	2.5 U
Diethyl phthalate	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Dimethyl phthalate	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Di-n-butylphthalate (DBP)	ug/L	5.4 U	5.0 U	5.0 U	0.47 J	5.4 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Fluoranthene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Fluorene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Hexachlorobenzene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Hexachlorobutadiene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Hexachlorocyclopentadiene	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Hexachloroethane	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Indeno(1,2,3-cd)pyrene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Isophorone	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Naphthalene	ug/L	5.4 U	5.0 U	0.24 J	5.6 U	5.4 U	5.0 U	2.5 U
Nitrobenzene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
N-Nitrosodi-n-propylamine	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
N-Nitrosodiphenylamine	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Pentachlorophenol	ug/L	22 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW51-12
Sample Identification:		WG-017360-101514-MR-046	WG-017360-041515-MR-046	WG-017360-102915-MR-046	WG-017360-041416-MR-039	WG-017360-101316-MR-044	WG-017360-041317-MR-044	GW-17360-110212-BW-200
Sample Date:		10/15/2014	4/15/2015	10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012
Sample Type:								
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Phenol	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Pyrene	ug/L	5.4 U	5.0 U	5.0 U	5.6 U	5.4 U	5.0 U	2.5 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW50-12	MW51-12
Sample Identification:		WG-017360-101514-MR-046	WG-017360-041515-MR-046	WG-017360-102915-MR-046	WG-017360-041416-MR-039	WG-017360-101316-MR-044	WG-017360-041317-MR-044	GW-17360-110212-BW-200
Sample Date:		10/15/2014	4/15/2015	10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012
Sample Type:								
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	0.24 UJ
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	0.24 UJ
Total PCBs	ug/L	--	--	--	--	--	--	0
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12
Sample Identification:		WG-17360-050313-MR-037	WG-17360-050313-MR-038	WG-17360-110513-EB-056	WG-017360-042214-MR-061	WG-017360-101514-MR-044	WG-017360-101514-MR-045	WG-017360-041515-MR-044	WG-017360-041515-MR-045
Sample Date:		5/3/2013	5/3/2013	11/5/2013	4/22/2014	10/15/2014	10/15/2014	4/15/2015	4/15/2015
Sample Type:			Duplicate				Duplicate		Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	120 U	30	25 U	25 U	2.4 J	2.5 J	25 U	25 U
2-Hexanone	ug/L	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	28 J	64	8.2 J	4.4 J	10 J	8.9 J	50 U	50 U
Benzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	25 U	1.6 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5.0 U	0.50 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5.0 U	0.82 J	2.6	2.7	2.6	2.7	4.1	3.8
Toluene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.1	1.1
Trichlorofluoromethane (CFC-11)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	15 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	R	11 U	11 U	5.0 U	5.0 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12
Sample Identification:		WG-17360-050313-MR-037	WG-17360-050313-MR-038	WG-17360-110513-EB-056	WG-017360-042214-MR-061	WG-017360-101514-MR-044	WG-017360-101514-MR-045	WG-017360-041515-MR-044	WG-017360-041515-MR-045
Sample Date:		5/3/2013	5/3/2013	11/5/2013	4/22/2014	10/15/2014	10/15/2014	4/15/2015	4/15/2015
Sample Type:			Duplicate				Duplicate		Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	0.16 J	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--	--	5.0 U	5.0 U
3,3'-Dichlorobenzidine	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	R	21 U	21 U	5.0 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	R	5.3 U	5.3 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	10 U	10 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
4-Methylphenol	ug/L	1.9 J	1.8 J	5.0 U	R	0.62 J	0.71 J	--	--
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	R	21 U	21 U	5.0 U	5.0 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.51 J	0.51 J	5.0 U	5.0 U
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Acetophenone	ug/L	0.89 J	0.98 J	1.0 U	1.0 U	0.34 J	0.35 J	1.0 U	1.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Atrazine	ug/L	3.0 U	3.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U
Benzaldehyde	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.11 J	0.13 J	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	0.77 J	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	10 U	10 U	11 U	11 U	10 U	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	11 U	11 U	5.0 U	5.0 U
Chrysene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Dibenzofuran	ug/L	4.0 U	4.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Fluoranthene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.32 J	0.34 J	5.0 U	5.0 U
Hexachlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	20 U	20 U	21 U	21 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	0.51 J	5.3 U	5.3 U	5.0 U	5.0 U
Naphthalene	ug/L	1.0 J	1.1 J	5.0 U	5.0 U	0.49 J	0.58 J	5.0 U	5.0 U
Nitrobenzene	ug/L	3.0 U	3.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	1.0 U	1.0 U	20 U	R	21 U	21 U	5.0 U	5.0 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12
Sample Identification:		WG-17360-050313-MR-037	WG-17360-050313-MR-038	WG-17360-110513-EB-056	WG-017360-042214-MR-061	WG-017360-101514-MR-044	WG-017360-101514-MR-045	WG-017360-041515-MR-044	WG-017360-041515-MR-045
Sample Date:		5/3/2013	5/3/2013	11/5/2013	4/22/2014	10/15/2014	10/15/2014	4/15/2015	4/15/2015
Sample Type:			Duplicate				Duplicate		Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	2.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Phenol	ug/L	3.8 J	3.7 J	5.0 U	R	1.7 J	1.6 J	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12	MW51-12
Sample Identification:		WG-17360-050313-MR-037	WG-17360-050313-MR-038	WG-17360-110513-EB-056	WG-017360-042214-MR-061	WG-017360-101514-MR-044	WG-017360-101514-MR-045	WG-017360-041515-MR-044	WG-017360-041515-MR-045
Sample Date:		5/3/2013	5/3/2013	11/5/2013	4/22/2014	10/15/2014	10/15/2014	4/15/2015	4/15/2015
Sample Type:			Duplicate				Duplicate		Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-102915-MR-047	WG-017360-041416-MR-038	WG-017360-101316-MR-045	WG-017360-041317-MR-043	GW-17360-110212-BW-199	WG-17360-050313-MR-039	WG-17360-110513-EB-054	WG-17360-110513-EB-055
Sample Date:		10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012	5/3/2013	11/5/2013	11/5/2013
Sample Type:									Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2.6 J	25 U	25 U	25 U	50	14 J	3.5 J	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	11	50 U	50 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	26	50 U	4.3 J	--
Acetone	ug/L	11 J	13 J	4.6 J	3.8 J	190	50 U	13 J	--
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.81 J	1.0 U	1.0 U	--
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.2	5.0 U	5.0 U	--
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.57 J	5.0 U	5.0 U	--
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.18 J	1.0 U	1.0 U	--
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	--
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
Ethylbenzene	ug/L	1.0 U	1.0 U	1.4	1.0 U	0.94 J	1.8	1.9	--
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8	2.0 J	2.8 J	--
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	--
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	--
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	--
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	3.8	3.2	1.3	--
Tetrachloroethene	ug/L	2.8	1.6	2.5	1.3	1.0 U	1.0 U	1.0 U	--
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.60 J	0.50 J	0.29 J	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	0.44 J	1.0 U	1.0 U	1.0 U	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Xylenes (total)	ug/L	1.5 J	3.0 U	3.7	3.0 U	9.2	2.1 J	1.6 J	--
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	4.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	0.71 J	5.5 U	0.85 J	5.0 U	20 U	2.6 J	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-102915-MR-047	WG-017360-041416-MR-038	WG-017360-101316-MR-045	WG-017360-041317-MR-043	GW-17360-110212-BW-199	WG-17360-050313-MR-039	WG-17360-110513-EB-054	WG-17360-110513-EB-055
Sample Date:		10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012	5/3/2013	11/5/2013	11/5/2013
Sample Type:									Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	0.26 J	5.5 U	0.34 J	0.18 J	10 U	0.72 J	5.0 U	5.0 U
2-Methylphenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.7 J	5.0 U	5.0 U
2-Nitroaniline	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	0.63 J	5.5 U	5.3 U	5.0 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	1.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	100 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	10 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	--	--	--	10 U	0.98 J	1.3 J	5.0 U
4-Nitroaniline	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	100 U	20 U	20 U	20 U
Acenaphthene	ug/L	0.38 J	0.36 J	0.71 J	0.51 J	10 U	1.2 J	1.1 J	1.0 J
Acenaphthylene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	1.1 U	1.1 U	1.1 U	1.0 U	11	1.0 U	1.0 U	1.0 U
Anthracene	ug/L	0.37 J	5.5 U	0.56 J	0.23 J	10 U	1.0 J	1.6 J	0.83 J
Atrazine	ug/L	1.1 U	1.1 U	1.1 U	1.0 U	10 U	3.0 U	1.0 U	1.0 U
Benzaldehyde	ug/L	1.1 U	1.1 U	1.1 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U
Benzo(a)anthracene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	0.91 J	0.65 J	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	11 U	11 U	11 U	10 U	20 UJ	10 U	10 U	10 U
Carbazole	ug/L	0.78 J	5.5 U	0.80 J	0.65 J	10 U	10 U	10 U	1.9 J
Chrysene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	2.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	5.3 U	0.42 J	0.65 J	0.86 J	10 U	1.1 J	0.85 J	1.1 J
Diethyl phthalate	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0	20 U	20 U
Dimethyl phthalate	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	20 U	20 U
Di-n-butylphthalate (DBP)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	20 U	5.0 U	5.0 U	0.82 J
Di-n-octyl phthalate (DnOP)	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	0.40 J	5.5 U	0.85 J	0.42 J	10 U	1.0 U	5.0 U	1.1 J
Fluorene	ug/L	0.46 J	0.44 J	0.65 J	0.40 J	10 U	2.1 J	2.7 J	3.4 J
Hexachlorobenzene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	20 U	20 U
Hexachloroethane	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	2.0 U	5.0 U	5.0 U
Isophorone	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	0.86 J	5.5 U	0.69 J	0.36 J	14[c]	12[c]	7.9	7.4
Nitrobenzene	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	3.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	5.3 U	5.5 U	5.3 U	5.0 U	10 U	1.0 U	20 U	20 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
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Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-102915-MR-047	WG-017360-041416-MR-038	WG-017360-101316-MR-045	WG-017360-041317-MR-043	GW-17360-110212-BW-199	WG-17360-050313-MR-039	WG-17360-110513-EB-054	WG-17360-110513-EB-055
Sample Date:		10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012	5/3/2013	11/5/2013	11/5/2013
Sample Type:									Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	1.0 J	5.5 U	1.4 J	0.61 J	10 U	1.2 J	**2.1 J**[c]	2.0 J
Phenol	ug/L	1.3 J	5.5 U	5.3 U	5.0 U	19	5.0 U	1.2 J	5.0 U
Pyrene	ug/L	0.22 J	5.5 U	0.47 J	0.23 J	10 U	1.1 J	5.0 U	5.0 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW51-12	MW51-12	MW51-12	MW51-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-102915-MR-047	WG-017360-041416-MR-038	WG-017360-101316-MR-045	WG-017360-041317-MR-043	GW-17360-110212-BW-199	WG-17360-050313-MR-039	WG-17360-110513-EB-054	WG-17360-110513-EB-055
Sample Date:		10/29/2015	4/14/2016	10/13/2016	4/13/2017	11/2/2012	5/3/2013	11/5/2013	11/5/2013
Sample Type:									Duplicate
Segment_Depth		(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(17-27) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	0.20 UJ	--	--	--
Total PCBs	ug/L	--	--	--	--	0	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-042214-MR-059	WG-017360-042214-MR-060	WG-017360-063014-MR-002	WG-017360-101514-MR-043	WG-017360-041515-MR-043	WG-017360-102915-MR-048	WG-017360-041416-MR-037
Sample Date:		4/22/2014	4/22/2014	6/30/2014	10/15/2014	4/15/2015	10/29/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	4.0 J	3.5 J	--	25 UJ	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	--	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.5 J	5.4 J	--	5.0 J	50 U	50 U	50 U
Acetone	ug/L	35 J	31 J	--	50 UJ	50 U	50 U	13 J
Benzene	ug/L	0.37 J	0.37 J	--	1.0 U	1.0 U	1.0 U	0.39 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	2.2	2.2	--	1.3	1.7	3.3	2.0
Isopropyl benzene	ug/L	2.6 J	2.7 J	--	1.5 J	2.3 J	3.4 J	1.3 J
Methyl acetate	ug/L	10 U	10 U	--	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	--	5.0 UJ	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.68 J	0.91 J	--	0.77 J	1.0 U	1.0 U	0.64 J
Tetrachloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	0.53 J	0.54 J	--	1.0 U	1.0 U	1.0 U	0.49 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0	3.1	--	1.9 J	1.8 J	5.9	3.2
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2,4,5-Trichlorophenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2,4,6-Trichlorophenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2,4-Dichlorophenol	ug/L	100 U	100 U	--	11 U	5.0 U	5.0 U	5.4 U
2,4-Dimethylphenol	ug/L	50 U	50 U	--	2.3 J	1.3 J	1.3 J	5.4 U
2,4-Dinitrophenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2,4-Dinitrotoluene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-042214-MR-059	WG-017360-042214-MR-060	WG-017360-063014-MR-002	WG-017360-101514-MR-043	WG-017360-041515-MR-043	WG-017360-102915-MR-048	WG-017360-041416-MR-037
Sample Date:		4/22/2014	4/22/2014	6/30/2014	10/15/2014	4/15/2015	10/29/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2-Chloronaphthalene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2-Chlorophenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2-Methylnaphthalene	ug/L	50 U	50 U	--	0.21 J	5.0 U	5.0 U	5.4 U
2-Methylphenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
2-Nitroaniline	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
2-Nitrophenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
3&4-Methylphenol	ug/L	--	--	--	--	5.0 U	5.0 U	5.4 U
3,3'-Dichlorobenzidine	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
3-Nitroaniline	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
4,6-Dinitro-2-methylphenol	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
4-Bromophenyl phenyl ether	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
4-Chloro-3-methylphenol	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
4-Chloroaniline	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
4-Chlorophenyl phenyl ether	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
4-Methylphenol	ug/L	50 U	50 U	--	5.3 U	--	--	--
4-Nitroaniline	ug/L	200 U	200 U	--	21 U	3.2 J	5.0 U	5.4 U
4-Nitrophenol	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
Acenaphthene	ug/L	50 U	50 U	--	0.67 J	5.0 U	0.94 J	5.4 U
Acenaphthylene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Acetophenone	ug/L	10 U	10 U	--	1.1 U	1.0 U	1.0 U	1.4
Anthracene	ug/L	50 U	50 U	--	0.96 J	5.0 U	5.0 U	5.4 U
Atrazine	ug/L	10 U	10 U	--	1.1 U	1.0 U	1.0 U	1.1 U
Benzaldehyde	ug/L	10 U	10 U	--	1.1 U	1.0 U	1.0 U	1.1 U
Benzo(a)anthracene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Benzo(a)pyrene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Benzo(b)fluoranthene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Benzo(g,h,i)perylene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Benzo(k)fluoranthene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Biphenyl (1,1-Biphenyl)	ug/L	50 U	50 U	--	0.57 J	5.0 U	5.0 U	5.4 U
bis(2-Chloroethoxy)methane	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
bis(2-Chloroethyl)ether	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Butyl benzylphthalate (BBP)	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Caprolactam	ug/L	100 U	100 U	--	11 U	10 U	10 U	11 U
Carbazole	ug/L	100 U	100 U	--	0.74 J	5.0 U	1.9 J	5.4 U
Chrysene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Dibenz(a,h)anthracene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Dibenzofuran	ug/L	50 U	50 U	--	0.76 J	5.0 U	0.70 J	5.4 U
Diethyl phthalate	ug/L	4.8 J	200 U	--	21 U	5.0 U	5.0 U	5.4 U
Dimethyl phthalate	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
Di-n-butylphthalate (DBP)	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Di-n-octyl phthalate (DnOP)	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Fluoranthene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Fluorene	ug/L	2.8 J	3.3 J	--	2.3 J	2.0 J	1.9 J	5.4 U
Hexachlorobenzene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Hexachlorobutadiene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Hexachlorocyclopentadiene	ug/L	200 U	200 U	--	21 U	5.0 U	5.0 U	5.4 U
Hexachloroethane	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Indeno(1,2,3-cd)pyrene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Isophorone	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Naphthalene	ug/L	8.0 J	7.8 J	--	6.5	5.0 J	1.9 J	5.4 U
Nitrobenzene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
N-Nitrosodi-n-propylamine	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
N-Nitrosodiphenylamine	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Pentachlorophenol	ug/L	**61 J[abc]**	200 U	1.0 U	21 U	5.0 U	5.0 U	5.4 U
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-042214-MR-059	WG-017360-042214-MR-060	WG-017360-063014-MR-002	WG-017360-101514-MR-043	WG-017360-041515-MR-043	WG-017360-102915-MR-048	WG-017360-041416-MR-037
Sample Date:		4/22/2014	4/22/2014	6/30/2014	10/15/2014	4/15/2015	10/29/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	50 U	50 U	--	1.3 J	5.0 U	5.0 U	5.4 U
Phenol	ug/L	50 U	50 U	--	0.72 J	5.0 U	5.0 U	5.4 U
Pyrene	ug/L	50 U	50 U	--	5.3 U	5.0 U	5.0 U	5.4 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12	MW52-12
Sample Identification:		WG-017360-042214-MR-059	WG-017360-042214-MR-060	WG-017360-063014-MR-002	WG-017360-101514-MR-043	WG-017360-041515-MR-043	WG-017360-102915-MR-048	WG-017360-041416-MR-037
Sample Date:		4/22/2014	4/22/2014	6/30/2014	10/15/2014	4/15/2015	10/29/2015	4/14/2016
Sample Type:			Duplicate					
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(16.7-26.7) ft BGS
AOI		AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6	AOI 6
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW53-12	MW53-12	MW53-12	MW53-12	MW57-13	MW57-13
Sample Identification:		WG-017360-101316-MR-046	WG-017360-041317-MR-042	WG-17360-110512-EB-001	WG-17360-050213-MR-028	WG-17360-103113-MR-029	WG-017360-041714-MR-033	GW-17360-050713-BW-048	WG-17360-110413-MR-041
Sample Date:		10/13/2016	4/13/2017	11/5/2012	5/2/2013	10/31/2013	4/17/2014	5/7/2013	11/4/2013
Sample Type:									
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(10-20) ft BGS	(10-20) ft BGS
AOI		AOI 6	AOI 6	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 31	AOI 31
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	5.0 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	5.0 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	1.7 J	5.0 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	6.6 J	5.0 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	2.5	3.0	5.5	0.59 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	3.4	2.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	3.1 J	2.1 J	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	5.7	4.4	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2,4-Dichlorophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2,4-Dimethylphenol	ug/L	0.93 J	5.4 U	1.0 U	--	--	--	--	--
2,4-Dinitrophenol	ug/L	5.0 U	5.4 U	5.0 U	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW53-12	MW53-12	MW53-12	MW53-12	MW57-13	MW57-13
Sample Identification:		WG-017360-101316-MR-046	WG-017360-041317-MR-042	WG-17360-110512-EB-001	WG-17360-050213-MR-028	WG-17360-103113-MR-029	WG-017360-041714-MR-033	GW-17360-050713-BW-048	WG-17360-110413-MR-041
Sample Date:		10/13/2016	4/13/2017	11/5/2012	5/2/2013	10/31/2013	4/17/2014	5/7/2013	11/4/2013
Sample Type:									
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(10-20) ft BGS	(10-20) ft BGS
AOI		AOI 6	AOI 6	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 31	AOI 31
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Chloronaphthalene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Chlorophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Methylnaphthalene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Methylphenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Nitroaniline	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
2-Nitrophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
3&4-Methylphenol	ug/L	5.0 U	5.4 U	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.4 U	R	--	--	--	--	--
3-Nitroaniline	ug/L	5.0 U	5.4 U	1.0 U	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.4 U	5.0 U	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
4-Chloroaniline	ug/L	5.0 U	5.4 U	1.0 U	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
4-Methylphenol	ug/L	--	--	0.50 U	--	--	--	--	--
4-Nitroaniline	ug/L	5.0 U	5.4 U	R	--	--	--	--	--
4-Nitrophenol	ug/L	5.0 U	5.4 U	5.0 U	--	--	--	--	--
Acenaphthene	ug/L	1.3 J	1.1 J	0.50 U	--	--	--	--	--
Acenaphthylene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Acetophenone	ug/L	1.0 U	1.1 U	0.50 U	--	--	--	--	--
Anthracene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Atrazine	ug/L	1.0 U	1.1 U	0.50 U	--	--	--	--	--
Benzaldehyde	ug/L	1.0 U	1.1 U	0.50 U	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Benzo(a)pyrene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.4 U	1.0 U	--	--	--	--	--
Caprolactam	ug/L	10 U	11 U	1.0 UJ	--	--	--	--	--
Carbazole	ug/L	2.7 J	2.9 J	0.50 U	--	--	--	--	--
Chrysene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Dibenzofuran	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Diethyl phthalate	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Dimethyl phthalate	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.4 U	1.0 U	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Fluoranthene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Fluorene	ug/L	3.4 J	3.2 J	0.50 U	--	--	--	--	--
Hexachlorobenzene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Hexachlorobutadiene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Hexachloroethane	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Isophorone	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Naphthalene	ug/L	1.2 J	2.3 J	0.50 U	--	--	--	--	--
Nitrobenzene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Pentachlorophenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW53-12	MW53-12	MW53-12	MW53-12	MW57-13	MW57-13
Sample Identification:		WG-017360-101316-MR-046	WG-017360-041317-MR-042	WG-17360-110512-EB-001	WG-17360-050213-MR-028	WG-17360-103113-MR-029	WG-017360-041714-MR-033	GW-17360-050713-BW-048	WG-17360-110413-MR-041
Sample Date:		10/13/2016	4/13/2017	11/5/2012	5/2/2013	10/31/2013	4/17/2014	5/7/2013	11/4/2013
Sample Type:									
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(10-20) ft BGS	(10-20) ft BGS
AOI		AOI 6	AOI 6	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 31	AOI 31
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Phenol	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Pyrene	ug/L	5.0 U	5.4 U	0.50 U	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--	--
Metals									
Antimony	ug/L	--	--	1.0 U	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	0.61 J	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	24	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	1.0 U	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	0.20 U	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	0.31 J	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	0.15 J	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	1.4	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	36	--	--	--	--	--
Lead	ug/L	--	--	1.0 U	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	4.0	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	0.20 U	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	0.72 J	--	--	--	--	--
Nickel	ug/L	--	--	0.72 J	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	0.33 J	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	0.20 U	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	1.0 U	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	0.57 J	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	10 U	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW52-12	MW52-12	MW53-12	MW53-12	MW53-12	MW53-12	MW57-13	MW57-13
Sample Identification:		WG-017360-101316-MR-046	WG-017360-041317-MR-042	WG-17360-110512-EB-001	WG-17360-050213-MR-028	WG-17360-103113-MR-029	WG-017360-041714-MR-033	GW-17360-050713-BW-048	WG-17360-110413-MR-041
Sample Date:		10/13/2016	4/13/2017	11/5/2012	5/2/2013	10/31/2013	4/17/2014	5/7/2013	11/4/2013
Sample Type:									
Segment_Depth		(16.7-26.7) ft BGS	(16.7-26.7) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(13-23) ft BGS	(10-20) ft BGS	(10-20) ft BGS
AOI		AOI 6	AOI 6	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 31	AOI 31
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	0.20 U	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	0.20 U	--	--	--	--	--
Total PCBs	ug/L	--	--	0	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW57-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13
Sample Identification:		WG-017360-041714-MR-034	WG-17360-110113-EB-038	WG-017360-041814-MR-040	WG-017360-101314-MR-029	WG-017360-041315-MR-027	WG-017360-102615-MR-027	WG-017360-041316-MR-030
Sample Date:		4/17/2014	11/1/2013	4/18/2014	10/13/2014	4/13/2015	10/26/2015	4/13/2016
Sample Type:								
Segment_Depth		(10-20) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 31	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW57-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13
Sample Identification:		WG-017360-041714-MR-034	WG-17360-110113-EB-038	WG-017360-041814-MR-040	WG-017360-101314-MR-029	WG-017360-041315-MR-027	WG-017360-102615-MR-027	WG-017360-041316-MR-030
Sample Date:		4/17/2014	11/1/2013	4/18/2014	10/13/2014	4/13/2015	10/26/2015	4/13/2016
Sample Type:								
Segment_Depth		(10-20) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 31	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW57-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13
Sample Identification:		WG-017360-041714-MR-034	WG-17360-110113-EB-038	WG-017360-041814-MR-040	WG-017360-101314-MR-029	WG-017360-041315-MR-027	WG-017360-102615-MR-027	WG-017360-041316-MR-030
Sample Date:		4/17/2014	11/1/2013	4/18/2014	10/13/2014	4/13/2015	10/26/2015	4/13/2016
Sample Type:								
Segment_Depth		(10-20) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 31	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	--	5 U	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	5 U	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	9.7	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	2 U	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	0.37 J	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	0.3 J	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	0.17 J	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	0.52 J	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	5 U	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	0.5 J	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	0.2 U	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	5 U	--	--	--
Nickel	ug/L	--	--	--	2.1 J	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	1.8 J	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	5 U	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	5 U	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	5 U	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	10 U	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW57-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13	MW58-13
Sample Identification:		WG-017360-041714-MR-034	WG-17360-110113-EB-038	WG-017360-041814-MR-040	WG-017360-101314-MR-029	WG-017360-041315-MR-027	WG-017360-102615-MR-027	WG-017360-041316-MR-030
Sample Date:		4/17/2014	11/1/2013	4/18/2014	10/13/2014	4/13/2015	10/26/2015	4/13/2016
Sample Type:								
Segment_Depth		(10-20) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(13.5-18.5) ft BGS
AOI		AOI 31	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW58-13	MW58-13	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14
Sample Identification:		WG-017360-101016-MR-026	WG-017360-040717-MR-022	WG-017360-063014-MR-001	WG-017360-100814-MR-011	WG-017360-040715-MR-012	WG-017360-040715-MR-013	WG-017360-102015-MR-005
Sample Date:		10/10/2016	4/7/2017	6/30/2014	10/8/2014	4/7/2015	4/7/2015	10/20/2015
Sample Type:							Duplicate	
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 4.1	AOI 4.1	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	0.64 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	--	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	--	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	--	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	--	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	15	15	15	16
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	--	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.2	1.0 U	--	3.5	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	--	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW58-13	MW58-13	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14
Sample Identification:		WG-017360-101016-MR-026	WG-017360-040717-MR-022	WG-017360-063014-MR-001	WG-017360-100814-MR-011	WG-017360-040715-MR-012	WG-017360-040715-MR-013	WG-017360-102015-MR-005
Sample Date:		10/10/2016	4/7/2017	6/30/2014	10/8/2014	4/7/2015	4/7/2015	10/20/2015
Sample Type:							Duplicate	
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 4.1	AOI 4.1	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW58-13	MW58-13	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14
Sample Identification:		WG-017360-101016-MR-026	WG-017360-040717-MR-022	WG-017360-063014-MR-001	WG-017360-100814-MR-011	WG-017360-040715-MR-012	WG-017360-040715-MR-013	WG-017360-102015-MR-005
Sample Date:		10/10/2016	4/7/2017	6/30/2014	10/8/2014	4/7/2015	4/7/2015	10/20/2015
Sample Type:							Duplicate	
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 4.1	AOI 4.1	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	--	--	5 U	5 U	2 U	2 U	2 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	2.2 J	0.83 J	1.6 J	1.4 J	1.8 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	110	100	93	91	100
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	2 U	2 U	1 U	1 U	1 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	0.12 J	1.6 J	1 U	1 U	1 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	5 U	5 U	5 U	5 U	10 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	0.078 J	0.6 J	0.32 J	0.32 J	0.32 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	--	--	0.66 J	1.4 J	0.87 J	0.71 J	0.94 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	**420[ab]**	**410[ab]**	**400[ab]**
Lead	ug/L	--	--	0.45 J	0.98 J	1.1 J	1.1 J	0.28 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	--	--	48	**51[ab]**	35	35	38 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	0.39 J	0.68 J	0.61 J	0.59 J	0.72 J
Nickel	ug/L	--	--	2.1 J	3.8 J	4.5 J	4.5 J	2.7 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	0.98 J	5 U	5 U	5 U	5 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	--	--	5 U	5 U	0.2 U	0.2 U	0.2 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	5 U	5 U	2 U	2 U	2 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	5 U	5 U	4 U	4 U	4 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	--	--	10 U	16	5.6 J	5.3 J	2.6 J
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW58-13	MW58-13	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14
Sample Identification:		WG-017360-101016-MR-026	WG-017360-040717-MR-022	WG-017360-063014-MR-001	WG-017360-100814-MR-011	WG-017360-040715-MR-012	WG-017360-040715-MR-013	WG-017360-102015-MR-005
Sample Date:		10/10/2016	4/7/2017	6/30/2014	10/8/2014	4/7/2015	4/7/2015	10/20/2015
Sample Type:							Duplicate	
Segment_Depth		(13.5-18.5) ft BGS	(13.5-18.5) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS
AOI		AOI 4.1	AOI 4.1	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW60-14
Sample Identification:		WG-017360-040616-MR-006	WG-017360-040616-MR-007	WG-017360-100416-MR-003	WG-017360-100416-MR-004	WG-017360-040517-MR-006	WG-017360-040517-MR-007	WG-017360-063014-MR-003
Sample Date:		4/6/2016	4/6/2016	10/4/2016	10/4/2016	4/5/2017	4/5/2017	6/30/2014
Sample Type:			Duplicate		Duplicate		Duplicate	
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethane	ug/L	0.80 J	0.82 J	1.0 U	0.56 J	1.0 U	1.0 U	--
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	--
Acetone	ug/L	50 U	50 U	50 U	50 U	2.7 J	50 U	--
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
cis-1,2-Dichloroethene	ug/L	14	14	7.3	6.9	14	14	--
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	--
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Trichloroethene	ug/L	0.71 J	0.70 J	1.0 U	1.0 U	1.9	2.1	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW60-14
Sample Identification:		WG-017360-040616-MR-006	WG-017360-040616-MR-007	WG-017360-100416-MR-003	WG-017360-100416-MR-004	WG-017360-040517-MR-006	WG-017360-040517-MR-007	WG-017360-063014-MR-003
Sample Date:		4/6/2016	4/6/2016	10/4/2016	10/4/2016	4/5/2017	4/5/2017	6/30/2014
Sample Type:			Duplicate		Duplicate		Duplicate	
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW60-14
Sample Identification:		WG-017360-040616-MR-006	WG-017360-040616-MR-007	WG-017360-100416-MR-003	WG-017360-100416-MR-004	WG-017360-040517-MR-006	WG-017360-040517-MR-007	WG-017360-063014-MR-003
Sample Date:		4/6/2016	4/6/2016	10/4/2016	10/4/2016	4/5/2017	4/5/2017	6/30/2014
Sample Type:			Duplicate		Duplicate		Duplicate	
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	0.051 J
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	1.5 J	2.4 J	5.8	6	8.7	8.4	0.67 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	120	110	76 J	78 J	75 J	72 J	50
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	2 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	1 U	1 U	1 U	1 U	0.066 J	1 U	2 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	0.71 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	20 U	20 U	1.1 J	1.1 J	0.83 J	0.82 J	3.8 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	0.35 J	0.27 J	2.1 J	2.7 J	1.7 J	1.3 J	1.8 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	**330[ab]**	**360[ab]**	**440[ab]**	**450[ab]**	**450[ab]**	**420[ab]**	--
Lead	ug/L	0.24 J	0.2 J	3 U	3 U	0.73 J	0.69 J	5 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	42 J	38 J	29 J	30 J	30 J	29 J	16
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	50 U	1.1 J	0.54 J	0.55 J	0.41 J	0.46 J	0.45 J
Nickel	ug/L	2.3 J	2.8 J	7.6 J	7.9 J	5.5 J	5.2 J	3.3 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	0.81 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	5 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	4 U	4 U	4 U	4 U	4 U	4 U	5 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	6.1 J	4.4 J	1.4 J	50 U	9.7 J	6.1 J	10 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW59-14	MW60-14
Sample Identification:		WG-017360-040616-MR-006	WG-017360-040616-MR-007	WG-017360-100416-MR-003	WG-017360-100416-MR-004	WG-017360-040517-MR-006	WG-017360-040517-MR-007	WG-017360-063014-MR-003
Sample Date:		4/6/2016	4/6/2016	10/4/2016	10/4/2016	4/5/2017	4/5/2017	6/30/2014
Sample Type:			Duplicate		Duplicate		Duplicate	
Segment_Depth		(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(30-35) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14
Sample Identification:		WG-017360-101314-MR-033	WG-017360-041415-MR-041	WG-017360-102715-MR-032	WG-017360-102715-MR-033	WG-017360-041116-MR-026	WG-017360-101116-MR-028	WG-017360-041117-MR-032
Sample Date:		10/13/2014	4/14/2015	10/27/2015	10/27/2015	4/11/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	0.51 J	0.51 J	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14
Sample Identification:		WG-017360-101314-MR-033	WG-017360-041415-MR-041	WG-017360-102715-MR-032	WG-017360-102715-MR-033	WG-017360-041116-MR-026	WG-017360-101116-MR-028	WG-017360-041117-MR-032
Sample Date:		10/13/2014	4/14/2015	10/27/2015	10/27/2015	4/11/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14
Sample Identification:		WG-017360-101314-MR-033	WG-017360-041415-MR-041	WG-017360-102715-MR-032	WG-017360-102715-MR-033	WG-017360-041116-MR-026	WG-017360-101116-MR-028	WG-017360-041117-MR-032
Sample Date:		10/13/2014	4/14/2015	10/27/2015	10/27/2015	4/11/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	5 U	0.1 U	0.12 J	0.1 J	0.16 J	0.17 J	2 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	0.65 J	5 U	5 U	5 U	5 U	5 U	5 U
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--
Barium	ug/L	35	21	23 J	23 J	22 J	18 J	16 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	0.091 J	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	1.5 J	4.1 J	10 U	10 U	3.1 J	2.8 J	5.1 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	3.2 J	1.2 J	2.6 J	2.7 J	2.1 J	0.86 J	0.59 J
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--
Copper	ug/L	3 J	4.7 J	4 U	4 U	1.7 J	1.8 J	1.6 J
Copper (dissolved)	ug/L	--	--	--	--	--	--	--
Iron	ug/L	--	54 J	27 J	24 J	49 J	26 J	200 U
Lead	ug/L	1.1 J	0.61 J	0.31 J	3 U	0.2 J	3 U	3 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--
Manganese	ug/L	32	5.4	2.3 J	2.1 J	3.1 J	1.6 J	3.6 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	0.98 J	4.8 J	3.3 J	3.2 J	3.3 J	3.6 J	4.5 J
Nickel	ug/L	3.8 J	5 U	2.8 J	2.9 J	2 J	0.8 J	0.76 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	0.95 J	2 J	5 U	5 U	1 J	1.7 J	1.2 J
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--
Silver	ug/L	5 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--
Sodium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	5 U	2 U	2 U	2 U	2 U	2 U	2 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--
Vanadium	ug/L	1.1 J	0.65 J	0.53 J	0.59 J	0.43 J	4 U	4 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--
Zinc	ug/L	11 U	4.5 J	5.2 J	50 U	4 J	3.6 J	3 J
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14	MW60-14
Sample Identification:		WG-017360-101314-MR-033	WG-017360-041415-MR-041	WG-017360-102715-MR-032	WG-017360-102715-MR-033	WG-017360-041116-MR-026	WG-017360-101116-MR-028	WG-017360-041117-MR-032
Sample Date:		10/13/2014	4/14/2015	10/27/2015	10/27/2015	4/11/2016	10/11/2016	4/11/2017
Sample Type:					Duplicate			
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS	(21-26) ft BGS
AOI		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Parameters	**Units**							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	PWDISCH	PWDISCH	PWDISCH	PWDISCH	SB130-11	TW131-11
Sample Identification:		WG-017360-041117-MR-033	GW-17360-121217-SK-006	GW-17360-102512-JV-013	WG-17360-050113-MR-017	WG-17360-103013-MR-023	WG-017360-041614-MR-022	GW-17360-093011-EM-052	GW-17360-100411-EM-057
Sample Date:		4/11/2017	12/12/2017	10/25/2012	5/1/2013	10/30/2013	4/16/2014	9/30/2011	10/4/2011
Sample Type:		Duplicate							
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS		
AOI		UNKNOWN	UNKNOWN	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 4.2	AOI 4.2
Parameters	**Units**								
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	2.0 U	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	--	5.0 U	25 U	25 U	25 U	10 U	10 U
2-Hexanone	ug/L	50 U	--	5.0 U	50 U	50 U	50 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	--	5.0 U	50 U	50 U	50 U	10 U	10 U
Acetone	ug/L	50 U	--	5.0 U	50 U	50 U	50 U	10 U	10 U
Benzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Carbon tetrachloride	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	10 U	--	5.0 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	--	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7
Toluene	ug/L	1.0 U	--	7.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Trichloroethene	ug/L	1.0 U	--	0.32 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	--	3.0 UJ	3.0 U	3.0 U	3.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	PWDISCH	PWDISCH	PWDISCH	PWDISCH	SB130-11	TW131-11
Sample Identification:		WG-017360-041117-MR-033	GW-17360-121217-SK-006	GW-17360-102512-JV-013	WG-17360-050113-MR-017	WG-17360-103013-MR-023	WG-017360-041614-MR-022	GW-17360-093011-EM-052	GW-17360-100411-EM-057
Sample Date:		4/11/2017	12/12/2017	10/25/2012	5/1/2013	10/30/2013	4/16/2014	9/30/2011	10/4/2011
Sample Type:		Duplicate							
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS		
AOI		UNKNOWN	UNKNOWN	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 4.2	AOI 4.2
Parameters	**Units**								
SVOCs (continued)									
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Acenaphthylene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	2.0 U	2.0 U
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	1.0 U	0.98 U
Fluorene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	2.0 U	2.0 U
Isophorone	ug/L	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--
Perfluorhexanoic acid	ug/L	--	0.05	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	0.025	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	0.021	--	--	--	--	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	PWDISCH	PWDISCH	PWDISCH	PWDISCH	SB130-11	TW131-11
Sample Identification:		WG-017360-041117-MR-033	GW-17360-121217-SK-006	GW-17360-102512-JV-013	WG-17360-050113-MR-017	WG-17360-103013-MR-023	WG-017360-041614-MR-022	GW-17360-093011-EM-052	GW-17360-100411-EM-057
Sample Date:		4/11/2017	12/12/2017	10/25/2012	5/1/2013	10/30/2013	4/16/2014	9/30/2011	10/4/2011
Sample Type:		Duplicate							
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS		
AOI		UNKNOWN	UNKNOWN	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 4.2	AOI 4.2
Parameters	**Units**								
SVOCs (continued)									
Perfluoro-n-Octanoic acid	ug/L	--	0.0029 U	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	0.066	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	0.0022 U	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	0.0025 U	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	2.0 U	2.0 U
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	5.0 U	4.9 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	0.022 U	--	--	--	--	--	--
Metals									
Antimony	ug/L	2 U	--	--	--	--	--	2.0 U	2.0 U
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	2.0 U
Arsenic	ug/L	5 U	--	--	--	--	--	2.5 J	0.71 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	0.46 J
Barium	ug/L	17 J	--	--	--	--	--	62 J	5.7 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	5.2 J
Beryllium	ug/L	1 U	--	--	--	--	--	1.0 U	1.0 U
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	1.0 U
Cadmium	ug/L	0.091 J	--	--	--	--	--	1.0 U	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	1.0 U
Chromium	ug/L	5 J	--	--	--	--	--	2.4 J	1.4 J
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	1.7 J
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	0.6 J	--	--	--	--	--	4.2 J	20 U
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	20 U
Copper	ug/L	1.8 J	--	--	--	--	--	3.1 J	4.0 U
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	4.0 U
Iron	ug/L	200 U	--	--	--	--	--	--	--
Lead	ug/L	3 U	--	--	--	--	--	1.0 J	3.0 U
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	3.0 U
Manganese	ug/L	3.4 J	--	--	--	--	--	**560[ab]**	4.0 J
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	4.9 J
Mercury	ug/L	0.2 U	--	--	--	--	--	40 U	40 U
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	0.20 U
Molybdenum	ug/L	4.6 J	--	--	--	--	--	--	--
Nickel	ug/L	0.73 J	--	--	--	--	--	6.0 J	0.29 J
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	0.29 J
Selenium	ug/L	1 J	--	--	--	--	--	2.2 J	5.0 U
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	5.0 U
Silver	ug/L	0.2 U	--	--	--	--	--	0.20 U	0.20 U
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	0.20 U
Sodium	ug/L	--	--	--	--	--	--	130000	36000
Thallium	ug/L	2 U	--	--	--	--	--	2.0 U	2.0 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	2.0 U
Vanadium	ug/L	4 U	--	--	--	--	--	2.0 J	4.0 U
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	4.0 U
Zinc	ug/L	4 J	--	--	--	--	--	50 U	50 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	50 U

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		MW60-14	MW60-14	PWDISCH	PWDISCH	PWDISCH	PWDISCH	SB130-11	TW131-11
Sample Identification:		WG-017360-041117-MR-033	GW-17360-121217-SK-006	GW-17360-102512-JV-013	WG-17360-050113-MR-017	WG-17360-103013-MR-023	WG-017360-041614-MR-022	GW-17360-093011-EM-052	GW-17360-100411-EM-057
Sample Date:		4/11/2017	12/12/2017	10/25/2012	5/1/2013	10/30/2013	4/16/2014	9/30/2011	10/4/2011
Sample Type:		Duplicate							
Segment_Depth		(21-26) ft BGS	(21-26) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS	(45-55) ft BGS		
AOI		UNKNOWN	UNKNOWN	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 25, AOI 4.3	AOI 4.2	AOI 4.2
Parameters	**Units**								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	--	--	--	--
Total PCBs	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)									
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		TW132-11	TW134-11	TW137-11	TW254-13	TW254-13	TW300-13	TW300-13
Sample Identification:		GW-17360-100411-EM-056	GW-17360-100311-EM-054	GW-17360-100311-EM-055	WG-17360-082113-EB-122	WG-17360-082113-EB-123	GW-017360-102313-MR-078	GW-017360-102313-MR-079
Sample Date:		10/4/2011	10/3/2011	10/3/2011	8/21/2013	8/21/2013	10/23/2013	10/23/2013
Sample Type:						Duplicate		Duplicate
Segment_Depth								
AOI		AOI 4.2	AOI 8.6	AOI 17.1	AOI 14	AOI 14	ZZUnknown	ZZUnknown
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	0.38 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	10 U	10 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/L	10 U	10 U	10 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	10 U	10 U	50 U	50 U	50 U	50 U
Acetone	ug/L	10 U	10 U	10 U	50 U	2.3 J	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.23 J	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.85 J	0.34 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	0.92 J	0.96 J
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.48 J	1.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.27 J	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.83 J	1.0 U	1.0 U	1.0 U	3.5	3.4
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	3.0 U	0.41 J	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	5.0 U	5.0 U	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2,4-Dichlorophenol	ug/L	--	--	--	10 U	10 U	--	--
2,4-Dimethylphenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2,4-Dinitrophenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	5.0 U	5.0 U	--	--

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		TW132-11	TW134-11	TW137-11	TW254-13	TW254-13	TW300-13	TW300-13
Sample Identification:		GW-17360-100411-EM-056	GW-17360-100311-EM-054	GW-17360-100311-EM-055	WG-17360-082113-EB-122	WG-17360-082113-EB-123	GW-017360-102313-MR-078	GW-017360-102313-MR-079
Sample Date:		10/4/2011	10/3/2011	10/3/2011	8/21/2013	8/21/2013	10/23/2013	10/23/2013
Sample Type:						Duplicate		Duplicate
Segment_Depth								
AOI		AOI 4.2	AOI 8.6	AOI 17.1	AOI 14	AOI 14	ZZUnknown	ZZUnknown
Parameters	**Units**							
SVOCs (continued)								
2,6-Dinitrotoluene	ug/L	--	--	--	5.0 U	5.0 U	--	--
2-Chloronaphthalene	ug/L	--	--	--	5.0 U	5.0 U	--	--
2-Chlorophenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2-Methylnaphthalene	ug/L	5.0 U	4.9 U	4.9 U	5.0 U	5.0 U	--	--
2-Methylphenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
2-Nitroaniline	ug/L	--	--	--	20 U	20 U	--	--
2-Nitrophenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	5.0 U	5.0 U	--	--
3-Nitroaniline	ug/L	--	--	--	20 U	20 U	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	20 U	20 U	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	5.0 U	5.0 U	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
4-Chloroaniline	ug/L	--	--	--	20 U	20 U	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	5.0 U	5.0 U	--	--
4-Methylphenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
4-Nitroaniline	ug/L	--	--	--	20 U	20 U	--	--
4-Nitrophenol	ug/L	--	--	--	20 U	20 U	--	--
Acenaphthene	ug/L	5.0 U	4.9 U	1.5 J	5.0 U	5.0 U	--	--
Acenaphthylene	ug/L	5.0 U	4.9 U	4.9 U	5.0 U	5.0 U	--	--
Acetophenone	ug/L	--	--	--	1.0 U	1.0 U	--	--
Anthracene	ug/L	5.0 U	4.9 U	0.23 J	5.0 U	5.0 U	--	--
Atrazine	ug/L	--	--	--	1.0 U	1.0 U	--	--
Benzaldehyde	ug/L	--	--	--	1.0 U	1.0 U	--	--
Benzo(a)anthracene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Benzo(a)pyrene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Benzo(b)fluoranthene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Benzo(g,h,i)perylene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Benzo(k)fluoranthene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	5.0 U	5.0 U	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	5.0 U	5.0 U	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	5.0 U	5.0 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	5.0 U	4.1 J	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	5.0 U	5.0 U	--	--
Caprolactam	ug/L	--	--	--	10 U	10 U	--	--
Carbazole	ug/L	--	--	--	10 U	10 U	--	--
Chrysene	ug/L	0.99 U	0.98 U	0.97 U	5.0 U	5.0 U	--	--
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	1.9 U	5.0 U	5.0 U	--	--
Dibenzofuran	ug/L	--	--	--	5.0 U	5.0 U	--	--
Diethyl phthalate	ug/L	--	--	--	2.4 J	1.9 J	--	--
Dimethyl phthalate	ug/L	--	--	--	20 U	20 U	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	5.0 U	5.0 U	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	5.0 U	5.0 U	--	--
Fluoranthene	ug/L	0.99 U	0.98 U	0.34 J	5.0 U	5.0 U	--	--
Fluorene	ug/L	5.0 U	4.9 U	0.47 J	5.0 U	5.0 U	--	--
Hexachlorobenzene	ug/L	--	--	--	5.0 U	5.0 U	--	--
Hexachlorobutadiene	ug/L	--	--	--	5.0 U	5.0 U	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	20 U	20 U	--	--
Hexachloroethane	ug/L	--	--	--	5.0 U	5.0 U	--	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	1.9 U	5.0 U	5.0 U	--	--
Isophorone	ug/L	--	--	--	5.0 U	5.0 U	--	--
Naphthalene	ug/L	5.0 U	4.9 U	4.9 U	5.0 U	5.0 U	--	--
Nitrobenzene	ug/L	--	--	--	5.0 U	5.0 U	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	5.0 U	5.0 U	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	5.0 U	5.0 U	--	--
Pentachlorophenol	ug/L	--	--	--	20 U	20 U	--	--
Perfluorhexanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorobutane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorobutanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ug/L	--	--	--	--	--	--	--
Perfluorodecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorododecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroheptane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ug/L	--	--	--	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		TW132-11	TW134-11	TW137-11	TW254-13	TW254-13	TW300-13	TW300-13
Sample Identification:		GW-17360-100411-EM-056	GW-17360-100311-EM-054	GW-17360-100311-EM-055	WG-17360-082113-EB-122	WG-17360-082113-EB-123	GW-017360-102313-MR-078	GW-017360-102313-MR-079
Sample Date:		10/4/2011	10/3/2011	10/3/2011	8/21/2013	8/21/2013	10/23/2013	10/23/2013
Sample Type:						Duplicate		Duplicate
Segment_Depth								
AOI		AOI 4.2	AOI 8.6	AOI 17.1	AOI 14	AOI 14	ZZUnknown	ZZUnknown
Parameters	**Units**							
SVOCs (continued)								
Perfluoro-n-Octanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonamide	ug/L	--	--	--	--	--	--	--
Perfluorooctane sulfonate	ug/L	--	--	--	--	--	--	--
Perfluorononanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoropentanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ug/L	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ug/L	--	--	--	--	--	--	--
Perflurorohexane sulfonate	ug/L	--	--	--	--	--	--	--
Phenanthrene	ug/L	2.0 U	2.0 U	1.9 U	5.0 U	5.0 U	--	--
Phenol	ug/L	--	--	--	5.0 U	5.0 U	--	--
Pyrene	ug/L	5.0 U	4.9 U	0.20 J	5.0 U	5.0 U	--	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	--	--	--	--	--	--	--
Metals								
Antimony	ug/L	0.59 J	0.20 J	0.27 J	--	--	--	--
Antimony (dissolved)	ug/L	0.58 J	2.0 U	0.26 J	--	--	--	--
Arsenic	ug/L	1.1 J	0.49 J	0.65 J	--	--	--	--
Arsenic (dissolved)	ug/L	0.75 J	5.0 U	0.79 J	--	--	--	--
Barium	ug/L	34 J	45 J	41 J	--	--	--	--
Barium (dissolved)	ug/L	27 J	42 J	42 J	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	1.0 U	--	--	--	--
Beryllium (dissolved)	ug/L	1.0 U	1.0 U	1.0 U	--	--	--	--
Cadmium	ug/L	0.16 J	1.0 U	1.0 U	--	--	--	--
Cadmium (dissolved)	ug/L	1.0 U	1.0 U	1.0 U	--	--	--	--
Chromium	ug/L	3.3 J	1.2 J	1.0 J	--	--	--	--
Chromium (dissolved)	ug/L	1.4 J	1.1 J	1.2 J	--	--	--	--
Chromium III (trivalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent)	ug/L	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	1.9 J	0.15 J	0.68 J	--	--	--	--
Cobalt (dissolved)	ug/L	0.40 J	0.12 J	0.66 J	--	--	--	--
Copper	ug/L	17	4.0 U	4.0 U	--	--	--	--
Copper (dissolved)	ug/L	13	4.0 U	4.0 U	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--
Lead	ug/L	1.2 J	0.28 J	3.0 U	--	--	--	--
Lead (dissolved)	ug/L	3.0 U	3.0 U	3.0 U	--	--	--	--
Manganese	ug/L	45 J	**94[ab]**	**170[ab]**	--	--	--	--
Manganese (dissolved)	ug/L	38 J	13 J	**190[ab]**	--	--	--	--
Mercury	ug/L	40 U	40 U	40 U	--	--	--	--
Mercury (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Nickel	ug/L	6.4 J	0.76 J	1.7 J	--	--	--	--
Nickel (dissolved)	ug/L	1.4 J	1.2 J	2.3 J	--	--	--	--
Selenium	ug/L	1.6 J	1.2 J	1.1 J	--	--	--	--
Selenium (dissolved)	ug/L	1.7 J	0.67 J	1.1 J	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	0.20 U	--	--	--	--
Silver (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	--	--	--	--
Sodium	ug/L	100000	--	--	--	--	--	--
Thallium	ug/L	2.0 U	1.1 J	2.0 U	--	--	--	--
Thallium (dissolved)	ug/L	2.0 U	2.0 U	2.0 U	--	--	--	--
Vanadium	ug/L	**15[a]**	4.0 U	4.0 U	--	--	--	--
Vanadium (dissolved)	ug/L	**14[a]**	4.0 U	4.0 U	--	--	--	--
Zinc	ug/L	33 J	50 U	50 U	--	--	--	--
Zinc (dissolved)	ug/L	50 U	50 U	50 U	--	--	--	--

Table 3.4

Select Groundwater Sample Analytical Results
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, MI

Sample Location:		TW132-11	TW134-11	TW137-11	TW254-13	TW254-13	TW300-13	TW300-13
Sample Identification:		GW-17360-100411-EM-056	GW-17360-100311-EM-054	GW-17360-100311-EM-055	WG-17360-082113-EB-122	WG-17360-082113-EB-123	GW-017360-102313-MR-078	GW-017360-102313-MR-079
Sample Date:		10/4/2011	10/3/2011	10/3/2011	8/21/2013	8/21/2013	10/23/2013	10/23/2013
Sample Type:						Duplicate		Duplicate
Segment_Depth								
AOI		AOI 4.2	AOI 8.6	AOI 17.1	AOI 14	AOI 14	ZZUnknown	ZZUnknown
Parameters	Units							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	0.098 U	0.099 U	--	--	--	--
Total PCBs	ug/L	--	0	0	--	--	--	--
Total Petroleum Hydrocarbons (TPH)								
Total Petroleum Hydrocarbons - Purgeable (GRO)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C10-C20)	ug/L	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C20-C34)	ug/L	--	--	--	--	--	--	--

Notes:

(1) Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
-- Parameter was not analyzed.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria. Superscript letter notes the criterion exceeded.

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]								
		Statewide Default Background	Drinking Water Protection	Nonresidential Drinking Water Protection	Groundwater Surface Water Interface Protection[2]	Soil Volatilization to Indoor Air Inhalation	Nonresidential Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Nonresidential Infinite Source Volatile Soil Inhalation	Finite VSIC for 5 Meter Source Thickness
		a	b	c	d	e	f	g	h	i
Volatile Organic Compounds (VOCs)	***Units***									
1,1,1-Trichloroethane	ug/kg	NA	4000	4000	1800	250000	460000	3800000	4500000	12000000
1,1,2,2-Tetrachloroethane	ug/kg	NA	170	700	1600	4300	23000	10000	34000	10000
1,1,2-Trichloroethane	ug/kg	NA	100	100	6600	4600	24000	17000	57000	21000
1,1-Dichloroethane	ug/kg	NA	18000	50000	15000	230000	430000	2100000	2500000	5900000
1,1-Dichloroethene	ug/kg	NA	140	140	2600	62	330	1100	3700	5300
1,2,4-Trichlorobenzene	ug/kg	NA	4200	4200	5900	9600000	18000000	28000000	34000000	28000000
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	NA	10	10	ID	220	1200	260	900	260
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	NA	20	20	110	670	3600	1700	5800	1700
1,2-Dichlorobenzene	ug/kg	NA	14000	14000	280	11000000	20000000	39000000	46000000	39000000
1,2-Dichloroethane	ug/kg	NA	100	100	7200	2100	11000	6200	21000	11000
1,2-Dichloropropane	ug/kg	NA	100	100	4600	4000	7400	25000	30000	50000
1,3-Dichlorobenzene	ug/kg	NA	170	480	680	26000	48000	79000	94000	79000
1,4-Dichlorobenzene	ug/kg	NA	1700	1700	360	19000	100000	77000	260000	77000
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	NA	260000	760000	44000	54000000	99000000	29000000	35000000	29000000
2-Hexanone	ug/kg	NA	20000	58000	ID	990000	1800000	1100000	1300000	1100000
4-Methyl-2-pentanone (Methyl isobutyl ketone)	ug/kg	NA	36000	100000	ID	37000000	69000000	45000000	53000000	45000000
Acetone	ug/kg	NA	15000	42000	34000	290000000	540000000	130000000	160000000	130000000
Benzene	ug/kg	NA	100	100	4000	1600	8400	13000	45000	34000
Bromodichloromethane	ug/kg	NA	1600	1600	ID	1200	6400	9100	31000	9700
Bromoform	ug/kg	NA	1600	1600	ID	150000	770000	900000	3100000	900000
Bromomethane (Methyl bromide)	ug/kg	NA	200	580	700	860	1600	11000	13000	57000
Carbon disulfide	ug/kg	NA	16000	46000	ID	76000	140000	1300000	1600000	7900000
Carbon tetrachloride	ug/kg	NA	100	100	900	190	990	3500	12000	12000
Chlorobenzene	ug/kg	NA	2000	2000	500	120000	220000	770000	920000	990000
Chloroethane	ug/kg	NA	8600	34000	22000	2900000	5300000	30000000	36000000	120000000
Chloroform (Trichloromethane)	ug/kg	NA	1600	1600	7000	7200	38000	45000	150000	120000
Chloromethane (Methyl chloride)	ug/kg	NA	5200	22000	ID	2300	10000	40000	120000	410000
cis-1,2-Dichloroethene	ug/kg	NA	1400	1400	12000	22000	41000	180000	210000	420000
cis-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/kg	NA	1600	1600	ID	3900	21000	24000	80000	24000
Dichlorodifluoromethane (CFC-12)	ug/kg	NA	95000	270000	ID	900000	1700000	53000000	63000000	550000000
Ethylbenzene	ug/kg	NA	1500	1500	360	87000	460000	720000	2400000	1000000
Isopropyl benzene	ug/kg	NA	91000	260000	3200	400000	730000	1700000	2000000	1700000
Methyl acetate	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/kg	NA	800	800	140000	9900000	18000000	25000000	30000000	39000000
Methylene chloride	ug/kg	NA	100	100	30000	45000	240000	210000	700000	590000
Styrene	ug/kg	NA	2700	2700	2100	250000	1300000	970000	3300000	970000
Tetrachloroethene	ug/kg	NA	100	100	1200	11000	21000	170000	210000	480000
Toluene	ug/kg	NA	16000	16000	5400	330000	610000	2800000	3300000	5100000
trans-1,2-Dichloroethene	ug/kg	NA	2000	2000	30000	23000	43000	280000	330000	830000
trans-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/kg	NA	100	100	4000	1000	1900	11000	14000	25000
Trichlorofluoromethane (CFC-11)	ug/kg	NA	52000	150000	NA	2800000	5100000	92000000	110000000	630000000
Trifluorotrichloroethane (Freon 113)	ug/kg	NA	9000000	9000000	1700	5100000	9300000	180000000	210000000	880000000
Vinyl chloride	ug/kg	NA	40	40	260	270	2800	4200	29000	30000
Xylenes (total)	ug/kg	NA	5600	5600	820	6300000	12000000	46000000	54000000	61000000

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]								
		Statewide Default Background	Drinking Water Protection	Nonresidential Drinking Water Protection	Groundwater Surface Water Interface Protection[2]	Soil Volatilization to Indoor Air Inhalation	Nonresidential Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Nonresidential Infinite Source Volatile Soil Inhalation	Finite VSIC for 5 Meter Source Thickness
		a	b	c	d	e	f	g	h	i
Semi-Volatile Organic Compounds (SVOCs)										
2,2'-Oxybis(1-chloropropane)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/kg	NA	39000	110000	NA	NLV	NLV	NLV	NLV	NLV
2,4,6-Trichlorophenol	ug/kg	NA	2400	9400	330	NLV	NLV	NLV	NLV	NLV
2,4-Dichlorophenol	ug/kg	NA	1500	4200	330	NLV	NLV	NLV	NLV	NLV
2,4-Dimethylphenol	ug/kg	NA	7400	20000	7600	NLV	NLV	NLV	NLV	NLV
2,4-Dinitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/kg	NA	430	640	NA	NLV	NLV	NLV	NLV	NLV
2,6-Dinitrotoluene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/kg	NA	620000	1800000	NA	ID	ID	ID	ID	ID
2-Chlorophenol	ug/kg	NA	900	2600	360	430000	800000	960000	1100000	960000
2-Methylnaphthalene	ug/kg	NA	57000	170000	4200	2700000	4900000	1500000	1800000	1500000
2-Methylphenol	ug/kg	NA	7400	20000	1000	NLV	NLV	NLV	NLV	NLV
2-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/kg	NA	400	1200	ID	NLV	NLV	NLV	NLV	NLV
3,3'-Dichlorobenzidine	ug/kg	NA	2000	2000	2000	NLV	NLV	NLV	NLV	NLV
3-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/kg	NA	830	830	NA	NLV	NLV	NLV	NLV	NLV
4-Bromophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/kg	NA	5800	16000	280	NLV	NLV	NLV	NLV	NLV
4-Chloroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/kg	NA	7400	20000	1000	NLV	NLV	NLV	NLV	NLV
4-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	NA	300000	880000	8700	190000000	350000000	81000000	97000000	81000000
Acenaphthylene	ug/kg	NA	5900	17000	ID	1600000	3000000	2200000	2700000	2200000
Acetophenone	ug/kg	NA	30000	88000	ID	120000000	210000000	44000000	52000000	44000000
Anthracene	ug/kg	NA	41000	41000	ID	1000000000	1000000000	1400000000	1600000000	1400000000
Atrazine	ug/kg	NA	60	60	150	NLV	NLV	NLV	NLV	NLV
Benzaldehyde	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Benzo(a)pyrene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Benzo(b)fluoranthene	ug/kg	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID
Benzo(g,h,i)perylene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Benzo(k)fluoranthene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Biphenyl (1,1-Biphenyl)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/kg	NA	100	170	100	8300	44000	3800	13000	3800
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Butyl benzylphthalate (BBP)	ug/kg	NA	2200000	5600000	120000	NLV	NLV	NLV	NLV	NLV
Caprolactam	ug/kg	NA	120000	340000	NA	NLV	NLV	NLV	NLV	NLV
Carbazole	ug/kg	NA	9400	39000	1100	NLV	NLV	NLV	NLV	NLV
Chrysene	ug/kg	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID
Dibenz(a,h)anthracene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Dibenzofuran	ug/kg	NA	ID	ID	1700	2000000	3600000	130000	160000	130000
Diethyl phthalate	ug/kg	NA	110000	320000	2200	NLV	NLV	NLV	NLV	NLV
Dimethyl phthalate	ug/kg	NA	1500000	4200000	NA	NLV	NLV	NLV	NLV	NLV
Di-n-butylphthalate (DBP)	ug/kg	NA	960000	2700000	11000	NLV	NLV	NLV	NLV	NLV
Di-n-octyl phthalate (DnOP)	ug/kg	NA	100000000	290000000	ID	NLV	NLV	NLV	NLV	NLV
Fluoranthene	ug/kg	NA	730000	730000	5500	1000000000	1000000000	740000000	890000000	740000000

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]								
		Statewide Default Background	Drinking Water Protection	Nonresidential Drinking Water Protection	Groundwater Surface Water Interface Protection[2]	Soil Volatilization to Indoor Air Inhalation	Nonresidential Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Nonresidential Infinite Source Volatile Soil Inhalation	Finite VSIC for 5 Meter Source Thickness
		a	b	c	d	e	f	g	h	i
SVOCs (continued)										
Fluorene	ug/kg	NA	390000	890000	5300	580000000	1000000000	130000000	150000000	130000000
Hexachlorobenzene	ug/kg	NA	1800	1800	350	41000	220000	17000	56000	17000
Hexachlorobutadiene	ug/kg	NA	26000	72000	91	130000	710000	130000	460000	130000
Hexachlorocyclopentadiene	ug/kg	NA	320000	320000	ID	30000	56000	50000	60000	50000
Hexachloroethane	ug/kg	NA	430	1200	1800	40000	79000	550000	660000	930000
Indeno(1,2,3-cd)pyrene	ug/kg	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV
Isophorone	ug/kg	NA	15000	62000	26000	NLV	NLV	NLV	NLV	NLV
Naphthalene	ug/kg	NA	35000	100000	730	250000	470000	300000	350000	300000
Nitrobenzene	ug/kg	NA	330	330	3600	91000	170000	54000	64000	54000
N-Nitrosodi-n-propylamine	ug/kg	NA	330	330	NA	NLV	NLV	NLV	NLV	NLV
N-Nitrosodiphenylamine	ug/kg	NA	5400	22000	NA	NLV	NLV	NLV	NLV	NLV
Pentachlorophenol	ug/kg	NA	22	22	27000	NLV	NLV	NLV	NLV	NLV
Phenanthrene	ug/kg	NA	56000	160000	2100	2800000	5100000	160000	190000	160000
Phenol	ug/kg	NA	88000	260000	9000	NLV	NLV	NLV	NLV	NLV
Pyrene	ug/kg	NA	480000	480000	ID	1000000000	1000000000	650000000	780000000	650000000
Metals										
Antimony	ug/kg	NA	4300	4300	94000	NLV	NLV	NLV	NLV	NLV
Arsenic	ug/kg	5800	4600	4600	4600	NLV	NLV	NLV	NLV	NLV
Barium	ug/kg	75000	1300000	1300000	1000000	NLV	NLV	NLV	NLV	NLV
Beryllium	ug/kg	NA	51000	51000	680000	NLV	NLV	NLV	NLV	NLV
Cadmium	ug/kg	1200	6000	6000	6700	NLV	NLV	NLV	NLV	NLV
Chromium	ug/kg	18000	30000	30000	3300	NLV	NLV	NLV	NLV	NLV
Chromium III (trivalent)	ug/kg	18000	1000000000	1000000000	5800000000	NLV	NLV	NLV	NLV	NLV
Chromium VI (hexavalent)	ug/kg	NA	30000	30000	3300	NLV	NLV	NLV	NLV	NLV
Cobalt	ug/kg	6800	800	2000	2000	NLV	NLV	NLV	NLV	NLV
Copper	ug/kg	32000	5800000	5800000	150000	NLV	NLV	NLV	NLV	NLV
Iron	ug/kg	12000000	6000	6000	NA	NLV	NLV	NLV	NLV	NLV
Lead	ug/kg	21000	700000	700000	9500000	NLV	NLV	NLV	NLV	NLV
Lead - coarse fraction	ug/kg	21000	700000	700000	NA	NLV	NLV	NLV	NLV	NLV
Lead - fine fraction	ug/kg	21000	700000	700000	NA	NLV	NLV	NLV	NLV	NLV
Lead - total (calculated by fine/coarse fraction)	ug/kg	21000	700000	700000	NA	NLV	NLV	NLV	NLV	NLV
Manganese	ug/kg	440000	1000	1000	120000	NLV	NLV	NLV	NLV	NLV
Mercury	ug/kg	130	1700	1700	50	48000	89000	52000	62000	52000
Molybdenum	ug/kg	NA	1500	4200	64000	NLV	NLV	NLV	NLV	NLV
Nickel	ug/kg	20000	100000	100000	160000	NLV	NLV	NLV	NLV	NLV
Selenium	ug/kg	410	4000	4000	400	NLV	NLV	NLV	NLV	NLV
Silver	ug/kg	1000	4500	13000	100	NLV	NLV	NLV	NLV	NLV
Thallium	ug/kg	NA	2300	2300	4200	NLV	NLV	NLV	NLV	NLV
Vanadium	ug/kg	NA	72000	990000	430000	NLV	NLV	NLV	NLV	NLV
Zinc	ug/kg	47000	2400000	5000000	340000	NLV	NLV	NLV	NLV	NLV
Polychlorinated Biphenyls (PCBs)										
Aroclor-1016 (PCB-1016)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1221 (PCB-1221)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1232 (PCB-1232)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1242 (PCB-1242)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1248 (PCB-1248)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1254 (PCB-1254)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Aroclor-1260 (PCB-1260)	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
Total PCBs	ug/kg	NA	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000
General Chemistry										

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]								
		Statewide Default Background	Drinking Water Protection	Nonresidential Drinking Water Protection	Groundwater Surface Water Interface Protection[2]	Soil Volatilization to Indoor Air Inhalation	Nonresidential Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Nonresidential Infinite Source Volatile Soil Inhalation	Finite VSIC for 5 Meter Source Thickness
		a	b	c	d	e	f	g	h	i
Cyanide (total)	ug/kg	390	4000	4000	100	NLV	NLV	NLV	NLV	NLV

Notes:

[1] Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013 pursuant to 1994 PA 451 as amended.
[2] Carbonate Hardness of 344 mg/L was used to calculate Groundwater-Surface Water Interface Protection Criteria.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Estimated reporting limit.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
R - Rejected.
-- Parameter was not analyzed.
☐ - Exceeds Generic Cleanup Criteria.
Superscript letter notes the criterion exceeded.

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]

Volatile Organic Compounds (VOCs)	*Units*	Nonresidential Finite VSIC for 5 Meter Source Thickness j	Finite VSIC for 2 Meter Source Thickness k	Nonresidential Finite VSIC for 2 Meter Source Thickness l	Particulate Soil Inhalation m	Nonresidential Particulate Soil Inhalation n	Direct Contact o	Nonresidential Direct Contact p	Soil Saturation Concentration Screening Levels q
1,1,1-Trichloroethane	ug/kg	15000000	28000000	31000000	67000000000	29000000000	500000000	1000000000	460000
1,1,2,2-Tetrachloroethane	ug/kg	34000	14000	34000	54000000	68000000	53000	240000	870000
1,1,2-Trichloroethane	ug/kg	57000	44000	120000	190000000	250000000	180000	840000	920000
1,1-Dichloroethane	ug/kg	6000000	14000000	14000000	33000000000	15000000000	27000000	87000000	890000
1,1-Dichloroethene	ug/kg	15000	13000	37000	62000000	78000000	200000	660000	570000
1,2,4-Trichlorobenzene	ug/kg	34000000	28000000	34000000	25000000000	11000000000	990000	5800000	1100000
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	900	260	900	560000	700000	4400000	20000	1200
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	5800	3300	9800	14000000	18000000	92	430	890000
1,2-Dichlorobenzene	ug/kg	46000000	52000000	55000000	100000000000	44000000000	19000000	63000000	210000
1,2-Dichloroethane	ug/kg	33000	26000	74000	120000000	150000000	91000	420000	1200000
1,2-Dichloropropane	ug/kg	51000	110000	120000	270000000	120000000	140000	660000	550000
1,3-Dichlorobenzene	ug/kg	94000	110000	110000	200000000	88000000	200000	660000	170000
1,4-Dichlorobenzene	ug/kg	260000	110000	340000	450000000	570000000	400000	1900000	NA
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	35000000	35000000	36000000	67000000000	29000000000	120000000	700000000	27000000
2-Hexanone	ug/kg	1300000	1400000	1500000	2700000000	1200000000	32000000	100000000	2500000
4-Methyl-2-pentanone (Methyl isobutyl ketone)	ug/kg	53000000	67000000	70000000	140000000000	60000000000	56000000	180000000	2700000
Acetone	ug/kg	160000000	190000000	200000000	390000000000	170000000000	23000000	73000000	110000000
Benzene	ug/kg	99000	79000	230000	380000000	470000000	180000	840000	400000
Bromodichloromethane	ug/kg	31000	19000	57000	84000000	110000000	110000	490000	1500000
Bromoform	ug/kg	3100000	900000	3100000	2800000000	3600000000	820000	3800000	870000
Bromomethane (Methyl bromide)	ug/kg	57000	140000	140000	330000000	150000000	320000	1000000	2200000
Carbon disulfide	ug/kg	8000000	19000000	19000000	47000000000	21000000000	7200000	43000000	280000
Carbon tetrachloride	ug/kg	34000	28000	79000	130000000	170000000	96000	440000	390000
Chlorobenzene	ug/kg	1100000	2100000	2100000	4700000000	2100000000	4300000	14000000	260000
Chloroethane	ug/kg	120000000	280000000	280000000	670000000000	290000000000	2600000	12000000	950000
Chloroform (Trichloromethane)	ug/kg	340000	270000	790000	1300000000	1600000000	1200000	5500000	1500000
Chloromethane (Methyl chloride)	ug/kg	1000000	1000000	2500000	4900000000	2600000000	1600000	7400000	1100000
cis-1,2-Dichloroethene	ug/kg	430000	990000	1000000	2300000000	1000000000	2500000	8000000	640000
cis-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/kg	80000	33000	98000	130000000	160000000	110000	500000	610000
Dichlorodifluoromethane (CFC-12)	ug/kg	550000000	1400000000	1400000000	3300000000000	1500000000000	52000000	170000000	1000000
Ethylbenzene	ug/kg	3100000	2200000	6500000	10000000000	13000000000	22000000	71000000	140000
Isopropyl benzene	ug/kg	2000000	2800000	3000000	5800000000	2600000000	25000000	80000000	390000
Methyl acetate	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/kg	41000000	87000000	89000000	200000000000	88000000000	1500000	7100000	5900000
Methylene chloride	ug/kg	1700000	1400000	4000000	6600000000	8300000000	1300000	5800000	2300000
Styrene	ug/kg	3300000	1400000	4200000	5500000000	6900000000	400000	1900000	520000
Tetrachloroethene	ug/kg	490000	1100000	1100000	2700000000	1200000000	200000	930000	88000
Toluene	ug/kg	36000000	12000000	36000000	27000000000	12000000000	50000000	160000000	250000
trans-1,2-Dichloroethene	ug/kg	840000	2000000	2000000	4700000000	2100000000	3800000	12000000	1400000
trans-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/kg	25000	57000	58000	130000000	59000000	110000	660000	500000
Trichlorofluoromethane (CFC-11)	ug/kg	140000000000	1500000000	140000000000	3800000000000	1700000000000	79000000	260000000	560000
Trifluorotrichloroethane (Freon 113)	ug/kg	890000000	2100000000	2100000000	5100000000000	2300000000000	1000000000	1000000000	550000
Vinyl chloride	ug/kg	170000	73000	420000	350000000	890000000	3800	34000	490000
Xylenes (total)	ug/kg	65000000	130000000	130000000	290000000000	130000000000	410000000	1000000000	150000

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]							
		Nonresidential Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Direct Contact	Nonresidential Direct Contact	Soil Saturation Concentration Screening Levels
		j	k	l	m	n	o	p	q
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/kg	NLV	NLV	NLV	23000000000	10000000000	23000000	73000000	NA
2,4,6-Trichlorophenol	ug/kg	NLV	NLV	NLV	1000000000	1300000000	710000	3300000	NA
2,4-Dichlorophenol	ug/kg	NLV	NLV	NLV	5100000000	2300000000	660000	3900000	1800000
2,4-Dimethylphenol	ug/kg	NLV	NLV	NLV	4700000000	2100000000	11000000	36000000	NA
2,4-Dinitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/kg	NLV	NLV	NLV	16000000	20000000	48000	220000	NA
2,6-Dinitrotoluene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/kg	ID	ID	ID	ID	ID	56000000	180000000	NA
2-Chlorophenol	ug/kg	1100000	960000	1100000	1200000000	530000000	1400000	4500000	19000000
2-Methylnaphthalene	ug/kg	1800000	1500000	1800000	670000000	290000000	8100000	26000000	NA
2-Methylphenol	ug/kg	NLV	NLV	NLV	6700000000	2900000000	11000000	36000000	NA
2-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/kg	NLV	NLV	NLV	ID	ID	630000	2000000	NA
3,3'-Dichlorobenzidine	ug/kg	NLV	NLV	NLV	6500000	8200000	6600	30000	NA
3-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/kg	NLV	NLV	NLV	130000000	59000000	79000	260000	NA
4-Bromophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/kg	NLV	NLV	NLV	ID	ID	4500000	15000000	NA
4-Chloroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/kg	NLV	NLV	NLV	6700000000	2900000000	11000000	36000000	NA
4-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	97000000	81000000	97000000	14000000000	6200000000	41000000	130000000	NA
Acenaphthylene	ug/kg	2700000	2200000	2700000	2300000000	1000000000	1600000	5200000	NA
Acetophenone	ug/kg	52000000	44000000	52000000	33000000000	14000000000	47000000	150000000	1100000
Anthracene	ug/kg	1600000000	1400000000	1600000000	67000000000	29000000000	230000000	730000000	NA
Atrazine	ug/kg	NLV	NLV	NLV	ID	ID	71000	330000	NA
Benzaldehyde	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/kg	NLV	NLV	NLV	ID	ID	20000	80000	NA
Benzo(a)pyrene	ug/kg	NLV	NLV	NLV	1500000	1900000	2000	8000	NA
Benzo(b)fluoranthene	ug/kg	ID	ID	ID	ID	ID	20000	80000	NA
Benzo(g,h,i)perylene	ug/kg	NLV	NLV	NLV	800000000	350000000	2500000	7000000	NA
Benzo(k)fluoranthene	ug/kg	NLV	NLV	NLV	ID	ID	200000	800000	NA
Biphenyl (1,1-Biphenyl)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/kg	13000	3800	13000	9400000	12000000	13000	58000	2200000
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	NLV	NLV	NLV	700000000	890000000	2800000	12000000	10000000
Butyl benzylphthalate (BBP)	ug/kg	NLV	NLV	NLV	47000000000	21000000000	36000000	120000000	310000
Caprolactam	ug/kg	NLV	NLV	NLV	670000000	290000000	53000000	310000000	NA
Carbazole	ug/kg	NLV	NLV	NLV	62000000	78000000	530000	2400000	NA
Chrysene	ug/kg	ID	ID	ID	ID	ID	2000000	8000000	NA
Dibenz(a,h)anthracene	ug/kg	NLV	NLV	NLV	ID	ID	2000	8000	NA
Dibenzofuran	ug/kg	160000	130000	160000	6700000	2900000	ID	ID	NA
Diethyl phthalate	ug/kg	NLV	NLV	NLV	3300000000	1500000000	170000000	550000000	740000
Dimethyl phthalate	ug/kg	NLV	NLV	NLV	3300000000	1500000000	1000000000	1000000000	790000
Di-n-butylphthalate (DBP)	ug/kg	NLV	NLV	NLV	3300000000	1500000000	27000000	87000000	760000
Di-n-octyl phthalate (DnOP)	ug/kg	NLV	NLV	NLV	31000000000	14000000000	6900000	20000000	140000000
Fluoranthene	ug/kg	880000000	740000000	880000000	9300000000	4100000000	46000000	130000000	NA

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [1]							
		Nonresidential Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Direct Contact	Nonresidential Direct Contact	Soil Saturation Concentration Screening Levels
		j	k	l	m	n	o	p	q
SVOCs (continued)									
Fluorene	ug/kg	150000000	130000000	150000000	9300000000	4100000000	27000000	87000000	NA
Hexachlorobenzene	ug/kg	56000	17000	56000	6800000	8500000	8900	37000	NA
Hexachlorobutadiene	ug/kg	460000	130000	460000	140000000	180000000	100000	470000	350000
Hexachlorocyclopentadiene	ug/kg	60000	50000	60000	13000000	5900000	2300000	6700000	720000
Hexachloroethane	ug/kg	1400000	930000	1400000	230000000	100000000	230000	730000	NA
Indeno(1,2,3-cd)pyrene	ug/kg	NLV	NLV	NLV	ID	ID	20000	80000	NA
Isophorone	ug/kg	NLV	NLV	NLV	12000000000	8200000000	4800000	22000000	2400000
Naphthalene	ug/kg	350000	300000	350000	200000000	88000000	16000000	52000000	NA
Nitrobenzene	ug/kg	64000	54000	64000	47000000	21000000	100000	340000	490000
N-Nitrosodi-n-propylamine	ug/kg	NLV	NLV	NLV	1600000	2000000	1200	5400	1500000
N-Nitrosodiphenylamine	ug/kg	NLV	NLV	NLV	2200000000	2800000000	1700000	7800000	NA
Pentachlorophenol	ug/kg	NLV	NLV	NLV	100000000	130000000	90000	320000	NA
Phenanthrene	ug/kg	190000	160000	190000	6700000	2900000	1600000	5200000	NA
Phenol	ug/kg	NLV	NLV	NLV	40000000000	18000000000	40000000	230000000	12000000
Pyrene	ug/kg	780000000	650000000	780000000	6700000000	2900000000	29000000	84000000	NA
Metals									
Antimony	ug/kg	NLV	NLV	NLV	13000000	5900000	180000	670000	NA
Arsenic	ug/kg	NLV	NLV	NLV	720000	910000	7600	37000	NA
Barium	ug/kg	NLV	NLV	NLV	330000000	150000000	37000000	130000000	NA
Beryllium	ug/kg	NLV	NLV	NLV	1300000	590000	410000	1600000	NA
Cadmium	ug/kg	NLV	NLV	NLV	1700000	2200000	550000	2100000	NA
Chromium	ug/kg	NLV	NLV	NLV	260000	240000	2500000	9200000	NA
Chromium III (trivalent)	ug/kg	NLV	NLV	NLV	330000000	150000000	790000000	1000000000	NA
Chromium VI (hexavalent)	ug/kg	NLV	NLV	NLV	260000	240000	2500000	9200000	NA
Cobalt	ug/kg	NLV	NLV	NLV	13000000	5900000	2600000	9000000	NA
Copper	ug/kg	NLV	NLV	NLV	130000000	59000000	20000000	73000000	NA
Iron	ug/kg	NLV	NLV	NLV	ID	ID	160000000	580000000	NA
Lead	ug/kg	NLV	NLV	NLV	100000000	44000000	400000	900000	NA
Lead - coarse fraction	ug/kg	NLV	NLV	NLV	100000000	44000000	400000	900000	NA
Lead - fine fraction	ug/kg	NLV	NLV	NLV	100000000	44000000	400000	900000	NA
Lead - total (calculated by fine/coarse fraction)	ug/kg	NLV	NLV	NLV	100000000	44000000	400000	900000	NA
Manganese	ug/kg	NLV	NLV	NLV	3300000	1500000	25000000	90000000	NA
Mercury	ug/kg	62000	52000	62000	20000000	8800000	160000	580000	NA
Molybdenum	ug/kg	NLV	NLV	NLV	ID	ID	2600000	9600000	NA
Nickel	ug/kg	NLV	NLV	NLV	13000000	16000000	40000000	150000000	NA
Selenium	ug/kg	NLV	NLV	NLV	130000000	59000000	2600000	9600000	NA
Silver	ug/kg	NLV	NLV	NLV	6700000	2900000	2500000	9000000	NA
Thallium	ug/kg	NLV	NLV	NLV	13000000	5900000	35000	130000	NA
Vanadium	ug/kg	NLV	NLV	NLV	ID	ID	750000	5500000	NA
Zinc	ug/kg	NLV	NLV	NLV	ID	ID	170000000	630000000	NA
Polychlorinated Biphenyls (PCBs)									
Aroclor-1016 (PCB-1016)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1221 (PCB-1221)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1232 (PCB-1232)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1242 (PCB-1242)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1248 (PCB-1248)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1254 (PCB-1254)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Aroclor-1260 (PCB-1260)	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
Total PCBs	ug/kg	28000000	7900000	28000000	5200000	6500000	4000	16000	NA
General Chemistry									

Table 3.5

Michigan Part 201 Residential and Nonresidential Soil Generic Cleanup Criteria
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Wyoming, Michigan

		MDEQ Generic Cleanup Criteria: Residential and Nonresidential [(1)]							
		Nonresidential Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Direct Contact	Nonresidential Direct Contact	Soil Saturation Concentration Screening Levels
		j	k	l	m	n	o	p	q
Cyanide (total)	ug/kg	NLV	NLV	NLV	250000	250000	12000	250000	NA

Notes:

[(1)] Cleanup Criteria Requirements for Response Activity, Administrative Rules R299.1 to R299.50 effective December 30, 2013 pursuant to 1994 PA 451 as amended.
[(2)] Carbonate Hardness of 344 mg/L was used to calculate Groundwater-Surface Water Interface Protection Criteria.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Estimated reporting limit.
ID - Insufficient data to develop criterion.
NA - A criterion or value is not available or, in the case of background numbers, not applicable.
NLL - Hazardous substance is not likely to leach under most soil conditions.
NLV - Hazardous substance is not likely to volatilize under most conditions.
R - Rejected.
-- Parameter was not analyzed.
☐ - Exceeds Generic Cleanup Criteria.
Superscript letter notes the criterion exceeded.

Table 3.8.1

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB41-11	SB41-11	SB41-11	SB42-11
Sample Identification		SO-17360-022211-DR-115	SO-17360-022211-DR-116	SO-17360-022211-DR-117	SO-17360-022111-DR-103
Sample Date		2/22/2011	2/22/2011	2/22/2011	2/21/2011
Sample Type			Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(18-20) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	45 U	46 U	41 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	46 U	41 U	38 U
1,1,2-Trichloroethane	ug/kg	45 U	46 U	41 U	38 U
1,1-Dichloroethane	ug/kg	45 U	46 U	41 U	38 U
1,1-Dichloroethene	ug/kg	45 U	46 U	41 U	38 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U	210 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U	210 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U	210 U	190 U
1,2-Dichlorobenzene	ug/kg	90 U	92 U	82 U	76 U
1,2-Dichloroethane	ug/kg	45 U	46 U	41 U	38 U
1,2-Dichloropropane	ug/kg	45 U	46 U	41 U	38 U
1,3-Dichlorobenzene	ug/kg	90 U	92 U	82 U	76 U
1,4-Dichlorobenzene	ug/kg	90 U	92 U	82 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	670 U	690 U	620 U	570 U
2-Hexanone	ug/kg	2200 U	2300 U	2100 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U	2100 U	1900 U
Acetone	ug/kg	670 U	690 U	620 U	570 U
Benzene	ug/kg	45 U	46 U	41 U	38 U
Bromodichloromethane	ug/kg	90 U	92 U	82 U	76 U
Bromoform	ug/kg	90 U	92 U	82 U	76 U
Bromomethane (Methyl bromide)	ug/kg	220 UJ	230 UJ	210 UJ	190 U
Carbon disulfide	ug/kg	220 U	230 U	210 U	190 U
Carbon tetrachloride	ug/kg	45 U	46 U	41 U	38 U
Chlorobenzene	ug/kg	45 U	46 U	41 U	38 U
Chloroethane	ug/kg	220 U	230 U	210 U	190 U
Chloroform (Trichloromethane)	ug/kg	45 U	46 U	41 U	38 U
Chloromethane (Methyl chloride)	ug/kg	220 UJ	230 UJ	210 UJ	190 U
cis-1,2-Dichloroethene	ug/kg	23 J	19 J	41 U	38 U
cis-1,3-Dichloropropene	ug/kg	45 U	46 U	41 U	38 U
Cyclohexane	ug/kg	1100 U	1100 U	990 U	920 U
Dibromochloromethane	ug/kg	45 U	46 U	41 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	92 U	82 U	76 U
Ethylbenzene	ug/kg	45 U	7.3 J	41 U	38 U
Isopropyl benzene	ug/kg	220 U	230 U	210 U	190 U

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Sample Location		SB41-11	SB41-11	SB41-11	SB42-11
Sample Identification		SO-17360-022211-DR-115	SO-17360-022211-DR-116	SO-17360-022211-DR-117	SO-17360-022111-DR-103
Sample Date		2/22/2011	2/22/2011	2/22/2011	2/21/2011
Sample Type			Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(18-20) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Methyl acetate	ug/kg	76 J	1100 U	41 J	920 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	1100 U	990 U	920 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U	210 U	190 U
Methylene chloride	ug/kg	220 U	230 U	210 U	190 U
Styrene	ug/kg	45 U	46 U	41 U	38 U
Tetrachloroethene	ug/kg	45 U	46 U	41 U	38 U
Toluene	ug/kg	90 U	51 J	82 U	76 U
trans-1,2-Dichloroethene	ug/kg	45 U	46 U	41 U	38 U
trans-1,3-Dichloropropene	ug/kg	45 U	46 U	41 U	38 U
Trichloroethene	ug/kg	**370**[bc]	**220**[bc]	41 U	26 J
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	92 U	82 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U	210 U	190 U
Vinyl chloride	ug/kg	36 U	37 U	33 U	31 U
Xylenes (total)	ug/kg	31 J	71 J	120 U	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	93 J	90 J	270 U	16 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--

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Sample Location		SB41-11	SB41-11	SB41-11	SB42-11
Sample Identification		SO-17360-022211-DR-115	SO-17360-022211-DR-116	SO-17360-022211-DR-117	SO-17360-022111-DR-103
Sample Date		2/22/2011	2/22/2011	2/22/2011	2/21/2011
Sample Type			Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(18-20) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
SVOCs (continued)					
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	52 J	67 J	270 U	270 U
Acenaphthylene	ug/kg	1400 U	1400 U	270 U	270 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	36 J	73 J	270 U	270 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	69 J	130 J	270 U	15 J
Benzo(a)pyrene	ug/kg	50 J	94 J	270 U	12 J
Benzo(b)fluoranthene	ug/kg	78 J	130 J	270 U	25 J
Benzo(g,h,i)perylene	ug/kg	48 J	72 J	270 U	24 J
Benzo(k)fluoranthene	ug/kg	1400 U	74 J	270 U	10 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	72 J	120 J	270 U	23 J
Dibenz(a,h)anthracene	ug/kg	1400 U	1400 U	270 U	270 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	160 J	300 J	270 U	25 J

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Sample Location		SB41-11	SB41-11	SB41-11	SB42-11
Sample Identification		SO-17360-022211-DR-115	SO-17360-022211-DR-116	SO-17360-022211-DR-117	SO-17360-022111-DR-103
Sample Date		2/22/2011	2/22/2011	2/22/2011	2/21/2011
Sample Type			Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(18-20) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Fluorene	ug/kg	39 J	51 J	270 U	270 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
SVOCs (continued)					
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	1400 U	58 J	270 U	10 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	81 J	84 J	270 U	9.0 J
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	210 J	340 J	270 U	19 J
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	110 J	200 J	270 U	22 J
Metals					
Antimony	ug/kg	65 J	190 J	160 UJ	150 J
Arsenic	ug/kg	1400	1200	3100	1900
Barium	ug/kg	24600	23800	4700	23500
Beryllium	ug/kg	170 U	170 U	160 U	160 U
Cadmium	ug/kg	83 U	83 U	82 U	82 U
Chromium	ug/kg	5400	5200	3000	4900
Cobalt	ug/kg	1700	1700	1700	2100
Copper	ug/kg	4400	4700	5200	18800
Iron	ug/kg	--	--	--	--
Lead	ug/kg	5700	6100	1900	17500
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Manganese	ug/kg	109000	124000	110000	152000
Mercury	ug/kg	42 U	42 U	41 U	41 U
Molybdenum	ug/kg	--	--	--	--

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Sample Location		SB41-11	SB41-11	SB41-11	SB42-11
Sample Identification		SO-17360-022211-DR-115	SO-17360-022211-DR-116	SO-17360-022211-DR-117	SO-17360-022111-DR-103
Sample Date		2/22/2011	2/22/2011	2/22/2011	2/21/2011
Sample Type			Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(18-20) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Nickel	ug/kg	3500	3600	3400	4800
Selenium	ug/kg	180 J	170 J	160 J	200 J
Silver	ug/kg	83 U	83 U	82 U	82 U
Metals (continued)					
Thallium	ug/kg	83 U	83 U	82 U	82 U
Vanadium	ug/kg	6700	6600	4700	7000
Zinc	ug/kg	14700	13300	7800	25600
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

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Sample Location		SB42-11	SB189-12	SB189-12	SB189-12
Sample Identification		SO-17360-022111-DR-104	S-17360-103112-DD-169	S-17360-103112-DD-170	S-17360-103112-DD-172
Sample Date		2/21/2011	10/31/2012	10/31/2012	10/31/2012
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(10.5-12.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	52 U	54 U	56 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	52 U	54 U	56 U
1,1,2-Trichloroethane	ug/kg	44 U	52 U	54 U	56 U
1,1-Dichloroethane	ug/kg	44 U	52 U	54 U	56 U
1,1-Dichloroethene	ug/kg	44 U	52 U	54 U	56 U
1,2,4-Trichlorobenzene	ug/kg	220 U	52 U	54 U	56 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	260 U	270 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	52 U	54 U	56 U
1,2-Dichlorobenzene	ug/kg	88 U	52 U	54 U	56 U
1,2-Dichloroethane	ug/kg	44 U	52 U	54 U	56 U
1,2-Dichloropropane	ug/kg	44 U	52 U	54 U	56 U
1,3-Dichlorobenzene	ug/kg	88 U	52 U	54 U	56 U
1,4-Dichlorobenzene	ug/kg	88 U	52 U	54 U	56 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	790 U	810 U	840 U
2-Hexanone	ug/kg	2200 U	2600 U	2700 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2600 U	2700 U	2800 U
Acetone	ug/kg	660 U	790 U	810 U	840 U
Benzene	ug/kg	44 U	52 U	54 U	56 U
Bromodichloromethane	ug/kg	88 U	52 U	54 U	56 U
Bromoform	ug/kg	88 U	52 U	54 U	56 U
Bromomethane (Methyl bromide)	ug/kg	220 U	52 U	54 U	56 U
Carbon disulfide	ug/kg	220 U	260 U	28 J	280 U
Carbon tetrachloride	ug/kg	44 U	52 U	54 U	56 U
Chlorobenzene	ug/kg	44 U	52 U	54 U	56 U
Chloroethane	ug/kg	220 U	52 U	54 U	56 U
Chloroform (Trichloromethane)	ug/kg	44 U	52 U	54 U	56 U
Chloromethane (Methyl chloride)	ug/kg	220 U	52 U	54 U	56 U
cis-1,2-Dichloroethene	ug/kg	44 U	52 U	54 U	56 U
cis-1,3-Dichloropropene	ug/kg	44 U	52 U	54 U	56 U
Cyclohexane	ug/kg	1100 U	260 U	270 U	280 U
Dibromochloromethane	ug/kg	44 U	52 U	54 U	56 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	52 U	54 U	56 U
Ethylbenzene	ug/kg	44 U	52 U	300	56 U
Isopropyl benzene	ug/kg	220 U	52 U	930	56 U

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Sample Location		SB42-11	SB189-12	SB189-12	SB189-12
Sample Identification		SO-17360-022111-DR-104	S-17360-103112-DD-169	S-17360-103112-DD-170	S-17360-103112-DD-172
Sample Date		2/21/2011	10/31/2012	10/31/2012	10/31/2012
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(10.5-12.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Methyl acetate	ug/kg	1100 U	260 UJ	270 UJ	280 UJ
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	260 U	97 J	280 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	52 U	54 U	56 U
Methylene chloride	ug/kg	220 U	100 U	**170[bc]**	**330[bc]**
Styrene	ug/kg	44 U	52 U	54 U	56 U
Tetrachloroethene	ug/kg	44 U	52 U	54 U	56 U
Toluene	ug/kg	88 U	52 U	54 U	56 U
trans-1,2-Dichloroethene	ug/kg	44 U	52 U	54 U	56 U
trans-1,3-Dichloropropene	ug/kg	44 U	52 U	54 U	56 U
Trichloroethene	ug/kg	44 U	52 U	54 U	56 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	52 U	54 U	26 J
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	52 U	54 U	56 U
Vinyl chloride	ug/kg	35 U	42 U	43 U	45 U
Xylenes (total)	ug/kg	130 U	160 U	**1500[d]**	170 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	18 U	710 U	19 U
2,4,5-Trichlorophenol	ug/kg	--	18 U	710 U	19 U
2,4,6-Trichlorophenol	ug/kg	--	18 U	710 U	19 U
2,4-Dichlorophenol	ug/kg	--	35 U	1400 U	37 U
2,4-Dimethylphenol	ug/kg	--	180 U	7100 U	190 U
2,4-Dinitrophenol	ug/kg	--	180 U	7100 U	190 U
2,4-Dinitrotoluene	ug/kg	--	35 U	1400 U	37 U
2,6-Dinitrotoluene	ug/kg	--	18 U	710 U	19 U
2-Chloronaphthalene	ug/kg	--	18 U	710 U	19 U
2-Chlorophenol	ug/kg	--	18 U	710 U	19 U
2-Methylnaphthalene	ug/kg	270 U	18 U	**14000[d]**	21
2-Methylphenol	ug/kg	--	18 U	710 U	19 U
2-Nitroaniline	ug/kg	--	18 U	710 U	19 U
2-Nitrophenol	ug/kg	--	18 U	710 U	19 U
3,3'-Dichlorobenzidine	ug/kg	--	870 U	35000 U	930 U
3-Nitroaniline	ug/kg	--	35 U	1400 U	37 U

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Sample Location		SB42-11	SB189-12	SB189-12	SB189-12
Sample Identification		SO-17360-022111-DR-104	S-17360-103112-DD-169	S-17360-103112-DD-170	S-17360-103112-DD-172
Sample Date		2/21/2011	10/31/2012	10/31/2012	10/31/2012
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(10.5-12.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
4,6-Dinitro-2-methylphenol	ug/kg	--	21 J	7100 U	190 U
4-Bromophenyl phenyl ether	ug/kg	--	18 U	710 U	19 U
SVOCs (continued)					
4-Chloro-3-methylphenol	ug/kg	--	18 U	710 U	19 U
4-Chloroaniline	ug/kg	--	70 U	2800 U	75 U
4-Chlorophenyl phenyl ether	ug/kg	--	18 U	710 U	19 U
4-Methylphenol	ug/kg	--	18 U	710 U	19 U
4-Nitroaniline	ug/kg	--	35 U	1400 U	37 U
4-Nitrophenol	ug/kg	--	700 U	28000 U	750 U
Acenaphthene	ug/kg	270 U	18 U	710 U	1.5 J
Acenaphthylene	ug/kg	270 U	18 U	710 U	1.1 J
Acetophenone	ug/kg	--	18 U	710 U	19 U
Anthracene	ug/kg	270 U	18 U	310 J	2.2 J
Atrazine	ug/kg	--	18 U	710 U	19 U
Benzaldehyde	ug/kg	--	R	R	R
Benzo(a)anthracene	ug/kg	270 U	18 U	610 J	9.2 J
Benzo(a)pyrene	ug/kg	270 U	18 U	420 J	6.3 J
Benzo(b)fluoranthene	ug/kg	270 U	18 U	460 J	5.5 J
Benzo(g,h,i)perylene	ug/kg	270 U	35 U	180 J	9.6 J
Benzo(k)fluoranthene	ug/kg	270 U	18 U	210 J	2.9 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	18 U	2400	19 U
bis(2-Chloroethoxy)methane	ug/kg	--	18 U	710 U	19 U
bis(2-Chloroethyl)ether	ug/kg	--	18 U	710 U	19 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	35 U	1400 U	37 U
Butyl benzylphthalate (BBP)	ug/kg	--	35 U	1400 U	37 U
Caprolactam	ug/kg	--	70 U	2800 U	75 U
Carbazole	ug/kg	--	180 U	7100 U	190 U
Chrysene	ug/kg	270 U	18 U	1500	5.9 J
Dibenz(a,h)anthracene	ug/kg	270 U	35 U	1400 U	37 U
Dibenzofuran	ug/kg	--	18 U	650 J	2.2 J
Diethyl phthalate	ug/kg	--	18 U	710 U	19 U
Dimethyl phthalate	ug/kg	--	18 U	710 U	19 U
Di-n-butylphthalate (DBP)	ug/kg	--	70 U	2800 U	75 U
Di-n-octyl phthalate (DnOP)	ug/kg	--	18 U	710 U	19 U
Fluoranthene	ug/kg	270 U	18 U	930	11 J

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Sample Location		SB42-11	SB189-12	SB189-12	SB189-12
Sample Identification		SO-17360-022111-DR-104	S-17360-103112-DD-169	S-17360-103112-DD-170	S-17360-103112-DD-172
Sample Date		2/21/2011	10/31/2012	10/31/2012	10/31/2012
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(10.5-12.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Fluorene	ug/kg	270 U	35 U	1000 J	2.9 J
Hexachlorobenzene	ug/kg	--	18 U	710 U	19 U
Hexachlorobutadiene	ug/kg	--	18 U	710 U	19 U
SVOCs (continued)					
Hexachlorocyclopentadiene	ug/kg	--	18 U	710 U	19 U
Hexachloroethane	ug/kg	--	18 U	710 U	19 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	35 U	150 J	5.5 J
Isophorone	ug/kg	--	18 U	710 U	19 U
Naphthalene	ug/kg	270 U	18 U	**4600**[d]	4.8 J
Nitrobenzene	ug/kg	--	18 U	710 U	19 U
N-Nitrosodi-n-propylamine	ug/kg	--	18 U	710 U	19 U
N-Nitrosodiphenylamine	ug/kg	--	18 U	710 U	19 U
Pentachlorophenol	ug/kg	--	180 U	7100 U	190 U
Phenanthrene	ug/kg	270 U	18 U	**2700**[d]	18 J
Phenol	ug/kg	--	180 U	7100 U	190 U
Pyrene	ug/kg	270 U	18 U	1500	12 J
Metals					
Antimony	ug/kg	160 UJ	140	44 J	32 J
Arsenic	ug/kg	1200	1600	830	1100
Barium	ug/kg	5600	17000 J	5600 J	7400 J
Beryllium	ug/kg	160 U	130 J	86 J	75 J
Cadmium	ug/kg	82 U	71	16 J	18 J
Chromium	ug/kg	6200	5500	6100	4300
Cobalt	ug/kg	2300	2000	1500	1400
Copper	ug/kg	4300	6600	3100	3300
Iron	ug/kg	--	5700000	2600000	3800000
Lead	ug/kg	1700	7200	2100	1500
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Manganese	ug/kg	155000	110000	19000	39000
Mercury	ug/kg	41 U	50 U	50 U	46 U
Molybdenum	ug/kg	--	250 J	110 J	180 J

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Wyoming, Michigan

Sample Location		SB42-11	SB189-12	SB189-12	SB189-12
Sample Identification		SO-17360-022111-DR-104	S-17360-103112-DD-169	S-17360-103112-DD-170	S-17360-103112-DD-172
Sample Date		2/21/2011	10/31/2012	10/31/2012	10/31/2012
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(10.5-12.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1	AOI 4.1	AOI 4.1
Nickel	ug/kg	5500	4700	5000	3800
Selenium	ug/kg	150 J	100 U	100 U	190
Silver	ug/kg	82 U	28 J	16 J	17 J
Metals (continued)					
Thallium	ug/kg	82 U	40 J	22 J	25 J
Vanadium	ug/kg	6100	8900	6600	6000
Zinc	ug/kg	8600	18000	8500	7400
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1221 (PCB-1221)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1232 (PCB-1232)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1242 (PCB-1242)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1248 (PCB-1248)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1254 (PCB-1254)	ug/kg	--	350 U	350 UJ	370 U
Aroclor-1260 (PCB-1260)	ug/kg	--	170 J	34 J	4.7 J
Total PCBs	ug/kg	--	170 J	34 J	4.7 J

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
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Sample Location		SB221-13/MW58-13	SB221-13/MW58-13
Sample Identification		SO-17360-042213-DR-001	SO-17360-042213-DR-002
Sample Date		4/22/2013	4/22/2013
Sample Type			
Sample Depth		(1-3) ft BGS	(6.5-8.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 4.1	AOI 4.1
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	32 U	32 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	32 U
1,1,2-Trichloroethane	ug/kg	32 U	32 U
1,1-Dichloroethane	ug/kg	32 U	32 U
1,1-Dichloroethene	ug/kg	32 U	32 U
1,2,4-Trichlorobenzene	ug/kg	32 U	32 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	32 U
1,2-Dichlorobenzene	ug/kg	32 U	32 U
1,2-Dichloroethane	ug/kg	32 U	32 U
1,2-Dichloropropane	ug/kg	32 U	32 U
1,3-Dichlorobenzene	ug/kg	32 U	32 U
1,4-Dichlorobenzene	ug/kg	32 U	32 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	220 U
2-Hexanone	ug/kg	32 U	32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	32 U
Acetone	ug/kg	110 U	110 U
Benzene	ug/kg	32 U	32 U
Bromodichloromethane	ug/kg	32 U	32 U
Bromoform	ug/kg	32 U	32 U
Bromomethane (Methyl bromide)	ug/kg	79 U	81 U
Carbon disulfide	ug/kg	32 U	32 U
Carbon tetrachloride	ug/kg	32 U	32 U
Chlorobenzene	ug/kg	32 U	32 U
Chloroethane	ug/kg	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	32 U	32 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	32 U	32 U
cis-1,3-Dichloropropene	ug/kg	32 U	32 U
Cyclohexane	ug/kg	32 U	32 U
Dibromochloromethane	ug/kg	32 U	32 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	32 U
Ethylbenzene	ug/kg	32 U	32 U
Isopropyl benzene	ug/kg	32 U	32 U

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
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Sample Location		**SB221-13/MW58-13**	**SB221-13/MW58-13**
Sample Identification		**SO-17360-042213-DR-001**	**SO-17360-042213-DR-002**
Sample Date		**4/22/2013**	**4/22/2013**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(6.5-8.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.1**	**AOI 4.1**
Methyl acetate	ug/kg	210 U	220 U
VOCs (continued)			
Methyl cyclohexane	ug/kg	32 U	32 U
Methyl tert butyl ether (MTBE)	ug/kg	32 U	32 U
Methylene chloride	ug/kg	32 U	32 U
Styrene	ug/kg	32 U	32 U
Tetrachloroethene	ug/kg	32 U	32 U
Toluene	ug/kg	32 U	19 J
trans-1,2-Dichloroethene	ug/kg	32 U	32 U
trans-1,3-Dichloropropene	ug/kg	32 U	32 U
Trichloroethene	ug/kg	32 U	32 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	32 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	32 U
Vinyl chloride	ug/kg	32 U	32 U
Xylenes (total)	ug/kg	95 U	97 U
Semi-Volatile Organic Compounds (SVOCs)			
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--
2,4,5-Trichlorophenol	ug/kg	--	--
2,4,6-Trichlorophenol	ug/kg	--	--
2,4-Dichlorophenol	ug/kg	--	--
2,4-Dimethylphenol	ug/kg	--	--
2,4-Dinitrophenol	ug/kg	--	--
2,4-Dinitrotoluene	ug/kg	--	--
2,6-Dinitrotoluene	ug/kg	--	--
2-Chloronaphthalene	ug/kg	--	--
2-Chlorophenol	ug/kg	--	--
2-Methylnaphthalene	ug/kg	82 U	860 U
2-Methylphenol	ug/kg	--	--
2-Nitroaniline	ug/kg	--	--
2-Nitrophenol	ug/kg	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--
3-Nitroaniline	ug/kg	--	--

Table 3.8.1

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB221-13/MW58-13**	**SB221-13/MW58-13**
Sample Identification		**SO-17360-042213-DR-001**	**SO-17360-042213-DR-002**
Sample Date		**4/22/2013**	**4/22/2013**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(6.5-8.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.1**	**AOI 4.1**
4,6-Dinitro-2-methylphenol	ug/kg	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--
SVOCs (continued)			
4-Chloro-3-methylphenol	ug/kg	--	--
4-Chloroaniline	ug/kg	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--
4-Methylphenol	ug/kg	--	--
4-Nitroaniline	ug/kg	--	--
4-Nitrophenol	ug/kg	--	--
Acenaphthene	ug/kg	31 U	320 U
Acenaphthylene	ug/kg	31 U	320 U
Acetophenone	ug/kg	--	--
Anthracene	ug/kg	31 U	320 U
Atrazine	ug/kg	--	--
Benzaldehyde	ug/kg	--	--
Benzo(a)anthracene	ug/kg	41	320 U
Benzo(a)pyrene	ug/kg	48	320 U
Benzo(b)fluoranthene	ug/kg	41	320 U
Benzo(g,h,i)perylene	ug/kg	34	320 U
Benzo(k)fluoranthene	ug/kg	49	320 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--
Caprolactam	ug/kg	--	--
Carbazole	ug/kg	--	--
Chrysene	ug/kg	48	320 U
Dibenz(a,h)anthracene	ug/kg	31 U	320 U
Dibenzofuran	ug/kg	--	--
Diethyl phthalate	ug/kg	--	--
Dimethyl phthalate	ug/kg	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--
Fluoranthene	ug/kg	69	320 U

Table 3.8.1

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
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Sample Location		**SB221-13/MW58-13**	**SB221-13/MW58-13**
Sample Identification		**SO-17360-042213-DR-001**	**SO-17360-042213-DR-002**
Sample Date		**4/22/2013**	**4/22/2013**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(6.5-8.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.1**	**AOI 4.1**
Fluorene	ug/kg	31 U	320 U
Hexachlorobenzene	ug/kg	--	--
Hexachlorobutadiene	ug/kg	--	--
SVOCs (continued)			
Hexachlorocyclopentadiene	ug/kg	--	--
Hexachloroethane	ug/kg	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	28 J	320 U
Isophorone	ug/kg	--	--
Naphthalene	ug/kg	31 U	320 U
Nitrobenzene	ug/kg	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--
N-Nitrosodiphenylamine	ug/kg	--	--
Pentachlorophenol	ug/kg	--	--
Phenanthrene	ug/kg	47	320 U
Phenol	ug/kg	--	--
Pyrene	ug/kg	92	320 U
Metals			
Antimony	ug/kg	170 J	61 J
Arsenic	ug/kg	3200	990
Barium	ug/kg	22000 J	13000 J
Beryllium	ug/kg	180	100 J
Cadmium	ug/kg	100 J	43 J
Chromium	ug/kg	6700	4100
Cobalt	ug/kg	2900	1300
Copper	ug/kg	22000	3700
Iron	ug/kg	5800000	4200000
Lead	ug/kg	13000	3900
Lead - coarse fraction	ug/kg	--	--
Lead - fine fraction	ug/kg	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--
Manganese	ug/kg	94000 J	31000 J
Mercury	ug/kg	14 J	8.5 J
Molybdenum	ug/kg	740	250 J

Soil Sample Analytical Results - AOI 4.1: Long term Industrial Operations – Main Parcel
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Sample Location		**SB221-13/MW58-13**	**SB221-13/MW58-13**
Sample Identification		**SO-17360-042213-DR-001**	**SO-17360-042213-DR-002**
Sample Date		**4/22/2013**	**4/22/2013**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(6.5-8.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.1**	**AOI 4.1**
Nickel	ug/kg	5400	3600
Selenium	ug/kg	400 U	400 U
Silver	ug/kg	17 J	7.2 J
Metals (continued)			
Thallium	ug/kg	400 U	400 U
Vanadium	ug/kg	7900	6800
Zinc	ug/kg	16000 J	9900 J
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--
Total PCBs	ug/kg	--	--

Table 3.8.3

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB43-11**	**SB43-11**	**SB43-11**
Sample Identification		**SO-17360-031511-DR-245**	**SO-17360-031511-DR-246**	**SO-17360-031511-DR-247**
Sample Date		**3/15/2011**	**3/15/2011**	**3/15/2011**
Sample Type				
Sample Depth		**(0.5-2.5) ft BGS**	**(6-8) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.3**	**AOI 4.3**	**AOI 4.3**
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	45 U	56 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	56 U	44 U
1,1,2-Trichloroethane	ug/kg	45 U	56 U	44 U
1,1-Dichloroethane	ug/kg	45 U	56 U	44 U
1,1-Dichloroethene	ug/kg	45 U	56 U	44 U
1,2,4-Trichlorobenzene	ug/kg	220 U	280 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	280 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	280 U	220 U
1,2-Dichlorobenzene	ug/kg	89 U	110 U	88 U
1,2-Dichloroethane	ug/kg	45 U	56 U	44 U
1,2-Dichloropropane	ug/kg	45 U	56 U	44 U
1,3-Dichlorobenzene	ug/kg	89 U	110 U	88 U
1,4-Dichlorobenzene	ug/kg	89 U	110 U	88 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	670 U	850 U	660 U
2-Hexanone	ug/kg	2200 U	2800 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2800 U	2200 U
Acetone	ug/kg	670 U	850 U	660 U
Benzene	ug/kg	45 U	56 U	44 U
Bromodichloromethane	ug/kg	89 U	110 U	88 U
Bromoform	ug/kg	89 U	110 U	88 U
Bromomethane (Methyl bromide)	ug/kg	220 U	280 U	220 U
Carbon disulfide	ug/kg	220 U	280 U	220 U
Carbon tetrachloride	ug/kg	45 U	56 U	44 U
Chlorobenzene	ug/kg	45 U	56 U	44 U
Chloroethane	ug/kg	220 U	280 U	220 U
Chloroform (Trichloromethane)	ug/kg	45 U	56 U	44 U
Chloromethane (Methyl chloride)	ug/kg	220 U	280 U	220 U
cis-1,2-Dichloroethene	ug/kg	45 U	56 U	44 U
cis-1,3-Dichloropropene	ug/kg	45 U	56 U	44 U
Cyclohexane	ug/kg	1100 U	1400 U	1100 U
Dibromochloromethane	ug/kg	45 U	56 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	89 U	110 U	88 U
Ethylbenzene	ug/kg	45 U	56 U	44 U

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
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Wyoming, Michigan

Sample Location		SB43-11	SB43-11	SB43-11
Sample Identification		SO-17360-031511-DR-245	SO-17360-031511-DR-246	SO-17360-031511-DR-247
Sample Date		3/15/2011	3/15/2011	3/15/2011
Sample Type				
Sample Depth		(0.5-2.5) ft BGS	(6-8) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 4.3	AOI 4.3	AOI 4.3
Isopropyl benzene	ug/kg	220 U	280 U	220 U
Methyl acetate	ug/kg	1100 U	39 J	1100 U
Methyl cyclohexane	ug/kg	1100 U	1400 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	280 U	220 U
Methylene chloride	ug/kg	220 U	280 U	220 U
Styrene	ug/kg	45 U	56 U	44 U
Tetrachloroethene	ug/kg	45 U	56 U	44 U
Toluene	ug/kg	89 U	110 U	88 U
trans-1,2-Dichloroethene	ug/kg	45 U	56 U	44 U
trans-1,3-Dichloropropene	ug/kg	45 U	56 U	44 U
Trichloroethene	ug/kg	45 U	56 U	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	89 U	110 U	88 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	280 U	220 U
Vinyl chloride	ug/kg	36 U	45 U	35 U
Xylenes (total)	ug/kg	130 U	170 U	130 U
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	280 U	320 U	280 U
Acenaphthene	ug/kg	280 U	320 U	280 U
Acenaphthylene	ug/kg	280 U	320 U	280 U
Anthracene	ug/kg	7.5 J	320 U	280 U
Benzo(a)anthracene	ug/kg	42 J	22 J	280 U
Benzo(a)pyrene	ug/kg	42 J	25 J	280 U
Benzo(b)fluoranthene	ug/kg	71 J	39 J	280 U
Benzo(g,h,i)perylene	ug/kg	38 J	22 J	280 U
Benzo(k)fluoranthene	ug/kg	27 J	16 J	280 U
Chrysene	ug/kg	66 J	31 J	280 U
Dibenz(a,h)anthracene	ug/kg	7.2 J	320 U	280 U
Fluoranthene	ug/kg	120 J	54 J	280 U
Fluorene	ug/kg	280 U	320 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	30 J	17 J	280 U
Naphthalene	ug/kg	280 U	320 U	280 U
Phenanthrene	ug/kg	33 J	22 J	280 U
Pyrene	ug/kg	110 J	44 J	280 U

Table 3.8.3

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB43-11**	**SB43-11**	**SB43-11**
Sample Identification		**SO-17360-031511-DR-245**	**SO-17360-031511-DR-246**	**SO-17360-031511-DR-247**
Sample Date		**3/15/2011**	**3/15/2011**	**3/15/2011**
Sample Type				
Sample Depth		**(0.5-2.5) ft BGS**	**(6-8) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 4.3**	**AOI 4.3**	**AOI 4.3**
Metals				
Antimony	ug/kg	110 J	58 J	170 UJ
Arsenic	ug/kg	2800 J	4100 J	760 J
Barium	ug/kg	25800	19000	4000
Beryllium	ug/kg	260 U	310 U	180 U
Cadmium	ug/kg	78 J	99	85 U
Chromium	ug/kg	8600	6500	3900
Cobalt	ug/kg	2800	930	1700
Copper	ug/kg	6400	4400	4000
Lead	ug/kg	19100	6800	1400
Manganese	ug/kg	196000	28500	51200
Mercury	ug/kg	35 J	40 J	40 U
Nickel	ug/kg	7100	3100	4200
Selenium	ug/kg	130 J	**420 J[d]**	170 UJ
Silver	ug/kg	18 J	33 J	85 U
Thallium	ug/kg	82 U	95 U	85 U
Vanadium	ug/kg	9000	9100	6200
Zinc	ug/kg	27000	10100	7000

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
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Wyoming, Michigan

Sample Location	
Sample Identification	
Sample Date	
Sample Type	
Sample Depth	
Excavation Status	**Units**
AOI	
Volatile Organic Compounds (VOCs)	
1,1,1-Trichloroethane	ug/kg
1,1,2,2-Tetrachloroethane	ug/kg
1,1,2-Trichloroethane	ug/kg
1,1-Dichloroethane	ug/kg
1,1-Dichloroethene	ug/kg
1,2,4-Trichlorobenzene	ug/kg
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg
1,2-Dibromoethane (Ethylene dibromide)	ug/kg
1,2-Dichlorobenzene	ug/kg
1,2-Dichloroethane	ug/kg
1,2-Dichloropropane	ug/kg
1,3-Dichlorobenzene	ug/kg
1,4-Dichlorobenzene	ug/kg
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg
2-Hexanone	ug/kg
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg
Acetone	ug/kg
Benzene	ug/kg
Bromodichloromethane	ug/kg
Bromoform	ug/kg
Bromomethane (Methyl bromide)	ug/kg
Carbon disulfide	ug/kg
Carbon tetrachloride	ug/kg
Chlorobenzene	ug/kg
Chloroethane	ug/kg
Chloroform (Trichloromethane)	ug/kg
Chloromethane (Methyl chloride)	ug/kg
cis-1,2-Dichloroethene	ug/kg
cis-1,3-Dichloropropene	ug/kg
Cyclohexane	ug/kg
Dibromochloromethane	ug/kg
Dichlorodifluoromethane (CFC-12)	ug/kg
Ethylbenzene	ug/kg

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
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Wyoming, Michigan

Sample Location	
Sample Identification	
Sample Date	
Sample Type	
Sample Depth	
Excavation Status	**Units**
AOI	
Isopropyl benzene	ug/kg
Methyl acetate	ug/kg
Methyl cyclohexane	ug/kg
Methyl tert butyl ether (MTBE)	ug/kg
Methylene chloride	ug/kg
Styrene	ug/kg
Tetrachloroethene	ug/kg
Toluene	ug/kg
trans-1,2-Dichloroethene	ug/kg
trans-1,3-Dichloropropene	ug/kg
Trichloroethene	ug/kg
Trichlorofluoromethane (CFC-11)	ug/kg
Trifluorotrichloroethane (Freon 113)	ug/kg
Vinyl chloride	ug/kg
Xylenes (total)	ug/kg
Semi-Volatile Organic Compounds (SVOCs)	
2-Methylnaphthalene	ug/kg
Acenaphthene	ug/kg
Acenaphthylene	ug/kg
Anthracene	ug/kg
Benzo(a)anthracene	ug/kg
Benzo(a)pyrene	ug/kg
Benzo(b)fluoranthene	ug/kg
Benzo(g,h,i)perylene	ug/kg
Benzo(k)fluoranthene	ug/kg
Chrysene	ug/kg
Dibenz(a,h)anthracene	ug/kg
Fluoranthene	ug/kg
Fluorene	ug/kg
Indeno(1,2,3-cd)pyrene	ug/kg
Naphthalene	ug/kg
Phenanthrene	ug/kg
Pyrene	ug/kg

Table 3.8.3

Soil Sample Analytical Results - AOI 4.3: Historical Operations – Northern Parcel
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Wyoming, Michigan

Sample Location	
Sample Identification	
Sample Date	
Sample Type	
Sample Depth	
Excavation Status	**Units**
AOI	
Metals	
Antimony	ug/kg
Arsenic	ug/kg
Barium	ug/kg
Beryllium	ug/kg
Cadmium	ug/kg
Chromium	ug/kg
Cobalt	ug/kg
Copper	ug/kg
Lead	ug/kg
Manganese	ug/kg
Mercury	ug/kg
Nickel	ug/kg
Selenium	ug/kg
Silver	ug/kg
Thallium	ug/kg
Vanadium	ug/kg
Zinc	ug/kg

Table 3.11.1

Soil Sample Analytical Results - AOI 7.1 – Bonderizing Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB45-11	SB45-11
Sample Identification		SO-17360-021711-DR-080	SO-17360-021711-DR-081
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.1	AOI 7.1
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	40 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	40 U	47 U
1,1,2-Trichloroethane	ug/kg	40 U	47 U
1,1-Dichloroethane	ug/kg	40 U	47 U
1,1-Dichloroethene	ug/kg	40 U	47 U
1,2,4-Trichlorobenzene	ug/kg	200 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	240 U
1,2-Dichlorobenzene	ug/kg	80 U	94 U
1,2-Dichloroethane	ug/kg	40 U	47 U
1,2-Dichloropropane	ug/kg	40 U	47 U
1,3-Dichlorobenzene	ug/kg	80 U	94 U
1,4-Dichlorobenzene	ug/kg	80 U	94 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	710 U
2-Hexanone	ug/kg	2000 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2400 U
Acetone	ug/kg	600 U	710 U
Benzene	ug/kg	40 U	47 U
Bromodichloromethane	ug/kg	80 U	94 U
Bromoform	ug/kg	80 U	94 U
Bromomethane (Methyl bromide)	ug/kg	200 U	240 U
Carbon disulfide	ug/kg	200 U	240 U
Carbon tetrachloride	ug/kg	40 U	47 U
Chlorobenzene	ug/kg	40 U	47 U
Chloroethane	ug/kg	200 U	240 U
Chloroform (Trichloromethane)	ug/kg	40 U	47 U
Chloromethane (Methyl chloride)	ug/kg	200 U	240 U
cis-1,2-Dichloroethene	ug/kg	40 U	47 U
cis-1,3-Dichloropropene	ug/kg	40 U	47 U
Cyclohexane	ug/kg	960 U	1100 U
Dibromochloromethane	ug/kg	40 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	94 U
Ethylbenzene	ug/kg	40 U	47 U

Soil Sample Analytical Results - AOI 7.1 – Bonderizing Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB45-11	SB45-11
Sample Identification		SO-17360-021711-DR-080	SO-17360-021711-DR-081
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.1	AOI 7.1
Isopropyl benzene	ug/kg	200 U	240 U
Methyl acetate	ug/kg	960 U	36 J
Methyl cyclohexane	ug/kg	960 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	240 U
Methylene chloride	ug/kg	200 U	240 U
Styrene	ug/kg	40 U	47 U
Tetrachloroethene	ug/kg	40 U	47 U
Toluene	ug/kg	80 U	94 U
trans-1,2-Dichloroethene	ug/kg	40 U	47 U
trans-1,3-Dichloropropene	ug/kg	40 U	47 U
Trichloroethene	ug/kg	40 U	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	94 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	240 U
Vinyl chloride	ug/kg	32 U	38 U
Xylenes (total)	ug/kg	120 U	140 U

Soil Sample Analytical Results - AOI 7.1 – Bonderizing Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB45-11	SB45-11
Sample Identification		SO-17360-021711-DR-080	SO-17360-021711-DR-081
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.1	AOI 7.1
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	270 U
Acenaphthene	ug/kg	270 U	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	270 U	270 U
Benzo(a)anthracene	ug/kg	270 U	270 U
Benzo(a)pyrene	ug/kg	270 U	270 U
Benzo(b)fluoranthene	ug/kg	270 U	270 U
Benzo(g,h,i)perylene	ug/kg	270 U	270 U
Benzo(k)fluoranthene	ug/kg	270 U	270 U
Chrysene	ug/kg	270 U	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U
Fluoranthene	ug/kg	270 U	270 U
Fluorene	ug/kg	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U
Naphthalene	ug/kg	270 U	270 U
Phenanthrene	ug/kg	270 U	270 U
Pyrene	ug/kg	270 U	270 U
Metals			
Antimony	ug/kg	160 UJ	32 J
Arsenic	ug/kg	1600	2100
Barium	ug/kg	5900	4600
Beryllium	ug/kg	160 U	160 U
Cadmium	ug/kg	81 U	81 U
Chromium	ug/kg	4700	3700
Chromium III (trivalent)	ug/kg	4700	3100
Chromium VI (hexavalent)	ug/kg	810 U	550 J
Cobalt	ug/kg	2000	2100
Copper	ug/kg	4300 J	2900 J
Lead	ug/kg	1900	2400
Manganese	ug/kg	134000 J	96800 J
Mercury	ug/kg	41 U	41 U

Table 3.11.1

Soil Sample Analytical Results - AOI 7.1 – Bonderizing Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB45-11	SB45-11
Sample Identification		SO-17360-021711-DR-080	SO-17360-021711-DR-081
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.1	AOI 7.1
Nickel	ug/kg	4300	4100
Selenium	ug/kg	150 J	130 J
Silver	ug/kg	81 U	81 U
Thallium	ug/kg	81 U	81 U
Vanadium	ug/kg	6200	5300
Zinc	ug/kg	9700	6800

Table 3.11.2

Soil Sample Analytical Results - AOI 7.2 – Lacquer and Cement Spray
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB46-11**	**SB46-11**
Sample Identification		**SO-17360-021811-DR-092**	**SO-17360-021811-DR-093**
Sample Date		**2/18/2011**	**2/18/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(19-21) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.2**	**AOI 7.2**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	46 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	43 U
1,1,2-Trichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethene	ug/kg	46 U	43 U
1,2,4-Trichlorobenzene	ug/kg	230 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	220 U
1,2-Dichlorobenzene	ug/kg	91 U	86 U
1,2-Dichloroethane	ug/kg	46 U	43 U
1,2-Dichloropropane	ug/kg	46 U	43 U
1,3-Dichlorobenzene	ug/kg	91 U	86 U
1,4-Dichlorobenzene	ug/kg	91 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	680 U	650 U
2-Hexanone	ug/kg	2300 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2200 U
Acetone	ug/kg	680 U	650 U
Benzene	ug/kg	46 U	43 U
Bromodichloromethane	ug/kg	91 U	86 U
Bromoform	ug/kg	91 U	86 U
Bromomethane (Methyl bromide)	ug/kg	230 U	220 U
Carbon disulfide	ug/kg	230 U	220 U
Carbon tetrachloride	ug/kg	46 U	43 U
Chlorobenzene	ug/kg	46 U	43 U
Chloroethane	ug/kg	230 U	220 U
Chloroform (Trichloromethane)	ug/kg	46 U	43 U
Chloromethane (Methyl chloride)	ug/kg	230 U	220 U
cis-1,2-Dichloroethene	ug/kg	46 U	43 U
cis-1,3-Dichloropropene	ug/kg	46 U	43 U
Cyclohexane	ug/kg	1100 U	1000 U
Dibromochloromethane	ug/kg	46 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	91 U	86 U
Ethylbenzene	ug/kg	46 U	43 U

Soil Sample Analytical Results - AOI 7.2 – Lacquer and Cement Spray
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB46-11**	**SB46-11**
Sample Identification		**SO-17360-021811-DR-092**	**SO-17360-021811-DR-093**
Sample Date		**2/18/2011**	**2/18/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(19-21) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.2**	**AOI 7.2**
Isopropyl benzene	ug/kg	230 U	220 U
Methyl acetate	ug/kg	39 J	1000 U
Methyl cyclohexane	ug/kg	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	220 U
Methylene chloride	ug/kg	**190 J[bc]**	**200 J[bc]**
Styrene	ug/kg	46 U	43 U
Tetrachloroethene	ug/kg	46 U	43 U
Toluene	ug/kg	91 U	86 U
trans-1,2-Dichloroethene	ug/kg	46 U	43 U
trans-1,3-Dichloropropene	ug/kg	46 U	43 U
Trichloroethene	ug/kg	46 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	91 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	220 U
Vinyl chloride	ug/kg	37 U	34 U
Xylenes (total)	ug/kg	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	5400 U	270 U
Acenaphthene	ug/kg	5400 U	270 U
Acenaphthylene	ug/kg	5400 U	270 U
Anthracene	ug/kg	5400 U	270 U
Benzo(a)anthracene	ug/kg	5400 U	270 U
Benzo(a)pyrene	ug/kg	5400 U	270 U
Benzo(b)fluoranthene	ug/kg	5400 U	13 J
Benzo(g,h,i)perylene	ug/kg	5400 U	270 U
Benzo(k)fluoranthene	ug/kg	5400 U	270 U
Chrysene	ug/kg	5400 U	14 J
Dibenz(a,h)anthracene	ug/kg	5400 U	270 U
Fluoranthene	ug/kg	5400 U	30 J
Fluorene	ug/kg	5400 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	5400 U	270 U
Naphthalene	ug/kg	5400 U	270 U
Phenanthrene	ug/kg	5400 U	270 U
Pyrene	ug/kg	5400 U	13 J

Table 3.11.2

Soil Sample Analytical Results - AOI 7.2 – Lacquer and Cement Spray
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB46-11**	**SB46-11**
Sample Identification		**SO-17360-021811-DR-092**	**SO-17360-021811-DR-093**
Sample Date		**2/18/2011**	**2/18/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(19-21) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.2**	**AOI 7.2**
Metals			
Antimony	ug/kg	34 J	160 UJ
Arsenic	ug/kg	990	1300
Barium	ug/kg	10100	3600
Beryllium	ug/kg	160 U	160 U
Cadmium	ug/kg	190	81 U
Chromium	ug/kg	3400	3600
Cobalt	ug/kg	1100	1400
Copper	ug/kg	5600 J	3100 J
Lead	ug/kg	21500	1300
Manganese	ug/kg	65300 J	79800 J
Mercury	ug/kg	41 U	41 U
Nickel	ug/kg	2500	3400
Selenium	ug/kg	160 U	100 J
Silver	ug/kg	82 U	81 U
Thallium	ug/kg	82 U	81 U
Vanadium	ug/kg	5100	3800
Zinc	ug/kg	10600	8000

Table 3.11.3

Soil Sample Analytical Results - AOI 7.3 – Anti-Rust Spray Booth No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB47-11	SB263-13	SB263-13
Sample Identification		SO-17360-021611-JY-067	SO-17360-082213-MR-152	SO-17360-082213-MR-153
Sample Date		2/16/2011	8/22/2013	8/22/2013
Sample Type				
Sample Depth		(1-3) ft BGS	(5-6) ft BGS	(19-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 7.3	AOI 7.3	AOI 7.3
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	44 U	33 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	33 U	33 U
1,1,2-Trichloroethane	ug/kg	44 U	33 U	33 U
1,1-Dichloroethane	ug/kg	44 U	33 U	33 U
1,1-Dichloroethene	ug/kg	44 U	33 U	33 U
1,2,4-Trichlorobenzene	ug/kg	220 U	33 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	33 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	33 U	33 U
1,2-Dichlorobenzene	ug/kg	88 U	33 U	33 U
1,2-Dichloroethane	ug/kg	44 U	33 U	33 U
1,2-Dichloropropane	ug/kg	44 U	33 U	33 U
1,3-Dichlorobenzene	ug/kg	88 U	33 U	33 U
1,4-Dichlorobenzene	ug/kg	88 U	33 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	220 U	220 U
2-Hexanone	ug/kg	2200 U	33 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	33 U	33 U
Acetone	ug/kg	660 U	110 U	110 U
Benzene	ug/kg	44 U	33 U	33 U
Bromodichloromethane	ug/kg	88 U	33 U	33 U
Bromoform	ug/kg	88 U	33 U	33 U
Bromomethane (Methyl bromide)	ug/kg	220 U	82 UJ	82 UJ
Carbon disulfide	ug/kg	220 U	33 U	33 U
Carbon tetrachloride	ug/kg	44 U	33 U	33 U
Chlorobenzene	ug/kg	44 U	33 U	33 U
Chloroethane	ug/kg	220 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	44 U	33 U	33 U
Chloromethane (Methyl chloride)	ug/kg	220 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	44 U	33 U	33 U
cis-1,3-Dichloropropene	ug/kg	44 U	33 U	33 U
Cyclohexane	ug/kg	1100 U	33 U	33 U
Dibromochloromethane	ug/kg	44 U	33 U	33 UJ
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	33 U	33 U
Ethylbenzene	ug/kg	44 U	33 U	33 U

Table 3.11.3

Soil Sample Analytical Results - AOI 7.3 – Anti-Rust Spray Booth No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB47-11**	**SB263-13**	**SB263-13**
Sample Identification		**SO-17360-021611-JY-067**	**SO-17360-082213-MR-152**	**SO-17360-082213-MR-153**
Sample Date		**2/16/2011**	**8/22/2013**	**8/22/2013**
Sample Type				
Sample Depth		**(1-3) ft BGS**	**(5-6) ft BGS**	**(19-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.3**	**AOI 7.3**	**AOI 7.3**
Isopropyl benzene	ug/kg	220 U	33 U	33 U
Methyl acetate	ug/kg	78 J	220 U	220 U
Methyl cyclohexane	ug/kg	1100 U	33 U	33 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	33 U	33 U
Methylene chloride	ug/kg	**190 J[bc]**	33 U	33 U
Styrene	ug/kg	44 U	33 U	33 U
Tetrachloroethene	ug/kg	44 U	33 U	33 U
Toluene	ug/kg	88 U	33 U	33 U
trans-1,2-Dichloroethene	ug/kg	44 U	33 U	33 U
trans-1,3-Dichloropropene	ug/kg	44 U	33 U	33 U
Trichloroethene	ug/kg	13 J	33 U	33 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	33 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	33 U	33 U
Vinyl chloride	ug/kg	35 U	33 U	33 U
Xylenes (total)	ug/kg	130 U	99 U	98 U

Table 3.11.3

Soil Sample Analytical Results - AOI 7.3 – Anti-Rust Spray Booth No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB47-11	SB263-13	SB263-13
Sample Identification		SO-17360-021611-JY-067	SO-17360-082213-MR-152	SO-17360-082213-MR-153
Sample Date		2/16/2011	8/22/2013	8/22/2013
Sample Type				
Sample Depth		(1-3) ft BGS	(5-6) ft BGS	(19-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 7.3	AOI 7.3	AOI 7.3
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	2800 U	85 U	83 U
Acenaphthene	ug/kg	140 J	32 U	31 U
Acenaphthylene	ug/kg	2800 U	32 U	31 U
Anthracene	ug/kg	340 J	32 U	31 U
Benzo(a)anthracene	ug/kg	1500 J	32 U	31 U
Benzo(a)pyrene	ug/kg	1300 J	68	31 U
Benzo(b)fluoranthene	ug/kg	2300 J	55	31 U
Benzo(g,h,i)perylene	ug/kg	1400 J	62	31 U
Benzo(k)fluoranthene	ug/kg	680 J	35	31 U
Chrysene	ug/kg	1600 J	32 U	31 U
Dibenz(a,h)anthracene	ug/kg	2800 U	32 U	31 U
Fluoranthene	ug/kg	3500	56	43
Fluorene	ug/kg	120 J	32 U	31 U
Indeno(1,2,3-cd)pyrene	ug/kg	1000 J	33	31 U
Naphthalene	ug/kg	2800 U	32 U	31 U
Phenanthrene	ug/kg	1400 J	32 U	31 U
Pyrene	ug/kg	2800	38	18 J
Metals				
Antimony	ug/kg	130 J	120 J	240 U
Arsenic	ug/kg	2000	1500	1800
Barium	ug/kg	29400	17000	7500
Beryllium	ug/kg	170 U	92 J	41 J
Cadmium	ug/kg	100	150 U	96 U
Chromium	ug/kg	10000	6400	6400
Cobalt	ug/kg	3100	2100	2700
Copper	ug/kg	10000 J	4200	5700
Iron	ug/kg	--	5200000	5600000
Lead	ug/kg	54400	3800	2600
Manganese	ug/kg	168000 J	180000	190000
Mercury	ug/kg	**180**[d]	10 J	5.1 J
Molybdenum	ug/kg	--	370 U	240 U

Table 3.11.3

Soil Sample Analytical Results - AOI 7.3 – Anti-Rust Spray Booth No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB47-11**	**SB263-13**	**SB263-13**
Sample Identification		**SO-17360-021611-JY-067**	**SO-17360-082213-MR-152**	**SO-17360-082213-MR-153**
Sample Date		**2/16/2011**	**8/22/2013**	**8/22/2013**
Sample Type				
Sample Depth		**(1-3) ft BGS**	**(5-6) ft BGS**	**(19-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.3**	**AOI 7.3**	**AOI 7.3**
Nickel	ug/kg	6500	4800	6000
Selenium	ug/kg	150 J	370 U	240 U
Silver	ug/kg	85 U	370 U	240 U
Thallium	ug/kg	85 U	53 J	42 J
Vanadium	ug/kg	10000	10000	8000
Zinc	ug/kg	44000	12000	9300
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	--	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	--	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	--	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	--	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	--	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	--	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	--	340 U	340 U
Total PCBs	ug/kg	--	0	0

Table 3.11.4

Soil Sample Analytical Results - AOI 7.4 – Anti-Rust Spray Booth No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB48-11**	**SB48-11**
Sample Identification		**SO-17360-021611-JY-065**	**SO-17360-021611-JY-066**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.4**	**AOI 7.4**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	45 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	46 U
1,1,2-Trichloroethane	ug/kg	45 U	46 U
1,1-Dichloroethane	ug/kg	45 U	46 U
1,1-Dichloroethene	ug/kg	45 U	46 U
1,2,4-Trichlorobenzene	ug/kg	230 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	230 U
1,2-Dichlorobenzene	ug/kg	90 U	93 U
1,2-Dichloroethane	ug/kg	45 U	46 U
1,2-Dichloropropane	ug/kg	45 U	46 U
1,3-Dichlorobenzene	ug/kg	90 U	93 U
1,4-Dichlorobenzene	ug/kg	90 U	93 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	680 U	700 U
2-Hexanone	ug/kg	2300 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2300 U
Acetone	ug/kg	680 U	700 U
Benzene	ug/kg	45 U	46 U
Bromodichloromethane	ug/kg	90 U	93 U
Bromoform	ug/kg	90 U	93 U
Bromomethane (Methyl bromide)	ug/kg	230 U	230 U
Carbon disulfide	ug/kg	230 U	230 U
Carbon tetrachloride	ug/kg	45 U	46 U
Chlorobenzene	ug/kg	45 U	46 U
Chloroethane	ug/kg	230 U	230 U
Chloroform (Trichloromethane)	ug/kg	45 U	46 U
Chloromethane (Methyl chloride)	ug/kg	230 U	230 U
cis-1,2-Dichloroethene	ug/kg	45 U	46 U
cis-1,3-Dichloropropene	ug/kg	45 U	46 U
Cyclohexane	ug/kg	1100 U	1100 U
Dibromochloromethane	ug/kg	45 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	93 U
Ethylbenzene	ug/kg	45 U	46 U

Table 3.11.4

Soil Sample Analytical Results - AOI 7.4 – Anti-Rust Spray Booth No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB48-11**	**SB48-11**
Sample Identification		**SO-17360-021611-JY-065**	**SO-17360-021611-JY-066**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.4**	**AOI 7.4**
Isopropyl benzene	ug/kg	230 U	230 U
Methyl acetate	ug/kg	52 J	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	230 U
Methylene chloride	ug/kg	230 U	230 U
Styrene	ug/kg	45 U	46 U
Tetrachloroethene	ug/kg	45 U	46 U
Toluene	ug/kg	90 U	93 U
trans-1,2-Dichloroethene	ug/kg	45 U	46 U
trans-1,3-Dichloropropene	ug/kg	45 U	46 U
Trichloroethene	ug/kg	45 U	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	93 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	230 U
Vinyl chloride	ug/kg	36 U	37 U
Xylenes (total)	ug/kg	140 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	280 U	280 U
Acenaphthene	ug/kg	280 U	280 U
Acenaphthylene	ug/kg	280 U	280 U
Anthracene	ug/kg	280 U	280 U
Benzo(a)anthracene	ug/kg	280 U	280 U
Benzo(a)pyrene	ug/kg	280 U	280 U
Benzo(b)fluoranthene	ug/kg	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	280 U	280 U
Benzo(k)fluoranthene	ug/kg	280 U	280 U
Chrysene	ug/kg	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	280 U	280 U
Fluoranthene	ug/kg	15 J	280 U
Fluorene	ug/kg	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	280 U
Naphthalene	ug/kg	280 U	280 U
Phenanthrene	ug/kg	14 J	280 U
Pyrene	ug/kg	13 J	280 U

Table 3.11.4

Soil Sample Analytical Results - AOI 7.4 – Anti-Rust Spray Booth No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB48-11**	**SB48-11**
Sample Identification		**SO-17360-021611-JY-065**	**SO-17360-021611-JY-066**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.4**	**AOI 7.4**
Metals			
Antimony	ug/kg	170 UJ	28 J
Arsenic	ug/kg	1100	3700
Barium	ug/kg	39100	10600
Beryllium	ug/kg	170 U	170 U
Cadmium	ug/kg	84 U	84 U
Chromium	ug/kg	4400	8100
Cobalt	ug/kg	2000	3800
Copper	ug/kg	2300 J	10200 J
Lead	ug/kg	4100	3500
Manganese	ug/kg	210000 J	273000 J
Mercury	ug/kg	23 J	42 U
Nickel	ug/kg	4200	7900
Selenium	ug/kg	130 J	150 J
Silver	ug/kg	84 U	84 U
Thallium	ug/kg	84 U	84 U
Vanadium	ug/kg	7000	14600
Zinc	ug/kg	12800	18900

Soil Sample Analytical Results - AOI 7.5 – Anti-Rust Spray Booth No. 3
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB49-11**
Sample Identification		**SO-17360-021511-DR-058**
Sample Date		**2/15/2011**
Sample Type		
Sample Depth		**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 7.5**
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	ug/kg	46 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U
1,1,2-Trichloroethane	ug/kg	46 U
1,1-Dichloroethane	ug/kg	46 U
1,1-Dichloroethene	ug/kg	46 U
1,2,4-Trichlorobenzene	ug/kg	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U
1,2-Dichlorobenzene	ug/kg	93 U
1,2-Dichloroethane	ug/kg	46 U
1,2-Dichloropropane	ug/kg	46 U
1,3-Dichlorobenzene	ug/kg	93 U
1,4-Dichlorobenzene	ug/kg	93 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	700 U
2-Hexanone	ug/kg	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U
Acetone	ug/kg	700 U
Benzene	ug/kg	46 U
Bromodichloromethane	ug/kg	93 U
Bromoform	ug/kg	93 U
Bromomethane (Methyl bromide)	ug/kg	230 U
Carbon disulfide	ug/kg	230 U
Carbon tetrachloride	ug/kg	46 U
Chlorobenzene	ug/kg	46 U
Chloroethane	ug/kg	230 U
Chloroform (Trichloromethane)	ug/kg	46 U
Chloromethane (Methyl chloride)	ug/kg	230 U
cis-1,2-Dichloroethene	ug/kg	46 U
cis-1,3-Dichloropropene	ug/kg	46 U
Cyclohexane	ug/kg	1100 U
Dibromochloromethane	ug/kg	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	93 U
Ethylbenzene	ug/kg	46 U

Soil Sample Analytical Results - AOI 7.5 – Anti-Rust Spray Booth No. 3
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB49-11**
Sample Identification		**SO-17360-021511-DR-058**
Sample Date		**2/15/2011**
Sample Type		
Sample Depth		**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 7.5**
Isopropyl benzene	ug/kg	230 U
Methyl acetate	ug/kg	1100 U
Methyl cyclohexane	ug/kg	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U
Methylene chloride	ug/kg	230 U
Styrene	ug/kg	46 U
Tetrachloroethene	ug/kg	46 U
Toluene	ug/kg	93 U
trans-1,2-Dichloroethene	ug/kg	46 U
trans-1,3-Dichloropropene	ug/kg	46 U
Trichloroethene	ug/kg	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	93 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U
Vinyl chloride	ug/kg	37 U
Xylenes (total)	ug/kg	140 U
Semi-Volatile Organic Compounds (SVOCs)		
2-Methylnaphthalene	ug/kg	270 U
Acenaphthene	ug/kg	270 U
Acenaphthylene	ug/kg	270 U
Anthracene	ug/kg	270 U
Benzo(a)anthracene	ug/kg	270 U
Benzo(a)pyrene	ug/kg	270 U
Benzo(b)fluoranthene	ug/kg	270 U
Benzo(g,h,i)perylene	ug/kg	270 U
Benzo(k)fluoranthene	ug/kg	270 U
Chrysene	ug/kg	270 U
Dibenz(a,h)anthracene	ug/kg	270 U
Fluoranthene	ug/kg	270 U
Fluorene	ug/kg	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U
Naphthalene	ug/kg	270 U
Phenanthrene	ug/kg	270 U
Pyrene	ug/kg	270 U

Table 3.11.5

Soil Sample Analytical Results - AOI 7.5 – Anti-Rust Spray Booth No. 3
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB49-11**
Sample Identification		**SO-17360-021511-DR-058**
Sample Date		**2/15/2011**
Sample Type		
Sample Depth		**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 7.5**
Metals		
Antimony	ug/kg	170 UJ
Arsenic	ug/kg	1800
Barium	ug/kg	5000
Beryllium	ug/kg	170 U
Cadmium	ug/kg	83 U
Chromium	ug/kg	3600
Cobalt	ug/kg	1800
Copper	ug/kg	2300 J
Lead	ug/kg	1800
Manganese	ug/kg	162000 J
Mercury	ug/kg	41 U
Nickel	ug/kg	4200
Selenium	ug/kg	120 J
Silver	ug/kg	83 U
Thallium	ug/kg	83 U
Vanadium	ug/kg	5400
Zinc	ug/kg	6400

Table 3.11.6

Soil Sample Analytical Results - AOI 7.6 – Anti-Rust Spray Booth No. 4
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB50-11**	**SB50-11**
Sample Identification		**SO-17360-021511-DR-059**	**SO-17360-021511-DR-060**
Sample Date		**2/15/2011**	**2/15/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.6**	**AOI 7.6**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	42 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	46 U
1,1,2-Trichloroethane	ug/kg	42 U	46 U
1,1-Dichloroethane	ug/kg	42 U	46 U
1,1-Dichloroethene	ug/kg	42 U	46 U
1,2,4-Trichlorobenzene	ug/kg	210 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	230 U
1,2-Dichlorobenzene	ug/kg	84 U	92 U
1,2-Dichloroethane	ug/kg	42 U	46 U
1,2-Dichloropropane	ug/kg	42 U	46 U
1,3-Dichlorobenzene	ug/kg	84 U	92 U
1,4-Dichlorobenzene	ug/kg	84 U	92 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U	690 U
2-Hexanone	ug/kg	2100 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2300 U
Acetone	ug/kg	630 U	690 U
Benzene	ug/kg	42 U	46 U
Bromodichloromethane	ug/kg	84 U	92 U
Bromoform	ug/kg	84 U	92 U
Bromomethane (Methyl bromide)	ug/kg	210 U	230 U
Carbon disulfide	ug/kg	210 U	230 U
Carbon tetrachloride	ug/kg	42 U	46 U
Chlorobenzene	ug/kg	42 U	46 U
Chloroethane	ug/kg	210 U	230 U
Chloroform (Trichloromethane)	ug/kg	42 U	46 U
Chloromethane (Methyl chloride)	ug/kg	210 U	230 U
cis-1,2-Dichloroethene	ug/kg	42 U	46 U
cis-1,3-Dichloropropene	ug/kg	42 U	46 U
Cyclohexane	ug/kg	1000 U	1100 U
Dibromochloromethane	ug/kg	42 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	84 U	92 U
Ethylbenzene	ug/kg	42 U	46 U

Table 3.11.6

Soil Sample Analytical Results - AOI 7.6 – Anti-Rust Spray Booth No. 4
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB50-11**	**SB50-11**
Sample Identification		**SO-17360-021511-DR-059**	**SO-17360-021511-DR-060**
Sample Date		**2/15/2011**	**2/15/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.6**	**AOI 7.6**
Isopropyl benzene	ug/kg	210 U	230 U
Methyl acetate	ug/kg	1000 U	1100 U
Methyl cyclohexane	ug/kg	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	230 U
Methylene chloride	ug/kg	210 U	230 U
Styrene	ug/kg	42 U	46 U
Tetrachloroethene	ug/kg	42 U	46 U
Toluene	ug/kg	84 U	92 U
trans-1,2-Dichloroethene	ug/kg	42 U	46 U
trans-1,3-Dichloropropene	ug/kg	42 U	46 U
Trichloroethene	ug/kg	42 U	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	84 U	92 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	230 U
Vinyl chloride	ug/kg	34 U	37 U
Xylenes (total)	ug/kg	130 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	290 U
Acenaphthene	ug/kg	270 U	290 U
Acenaphthylene	ug/kg	270 U	290 U
Anthracene	ug/kg	270 U	290 U
Benzo(a)anthracene	ug/kg	11 J	290 U
Benzo(a)pyrene	ug/kg	270 U	290 U
Benzo(b)fluoranthene	ug/kg	17 J	290 U
Benzo(g,h,i)perylene	ug/kg	270 U	290 U
Benzo(k)fluoranthene	ug/kg	270 U	290 U
Chrysene	ug/kg	11 J	290 U
Dibenz(a,h)anthracene	ug/kg	270 U	290 U
Fluoranthene	ug/kg	22 J	290 U
Fluorene	ug/kg	270 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	290 U
Naphthalene	ug/kg	270 U	290 U
Phenanthrene	ug/kg	11 J	290 U
Pyrene	ug/kg	17 J	290 U

Table 3.11.6

Soil Sample Analytical Results - AOI 7.6 – Anti-Rust Spray Booth No. 4
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB50-11**	**SB50-11**
Sample Identification		**SO-17360-021511-DR-059**	**SO-17360-021511-DR-060**
Sample Date		**2/15/2011**	**2/15/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.6**	**AOI 7.6**
Metals			
Antimony	ug/kg	160 UJ	170 UJ
Arsenic	ug/kg	1200	1800
Barium	ug/kg	26600	5900
Beryllium	ug/kg	160 U	170 U
Cadmium	ug/kg	81 U	87 U
Chromium	ug/kg	4200	3000
Cobalt	ug/kg	1900	1700
Copper	ug/kg	2000 J	2800 J
Lead	ug/kg	7200	2000
Manganese	ug/kg	143000 J	90600 J
Mercury	ug/kg	68	44 U
Nickel	ug/kg	3700	3700
Selenium	ug/kg	120 J	170 UJ
Silver	ug/kg	81 U	87 U
Thallium	ug/kg	81 U	87 U
Vanadium	ug/kg	6700	5000
Zinc	ug/kg	13000	9500

Table 3.11.7

Soil Sample Analytical Results - AOI 7.7 – Former West Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB51-11	SB51-11
Sample Identification		SO-17360-030111-DR-147	SO-17360-030111-DR-148
Sample Date		3/1/2011	3/1/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(19-21) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.7	AOI 7.7
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	47 U	41 U
1,1,2,2-Tetrachloroethane	ug/kg	47 U	41 U
1,1,2-Trichloroethane	ug/kg	47 U	41 U
1,1-Dichloroethane	ug/kg	47 U	41 U
1,1-Dichloroethene	ug/kg	47 U	41 U
1,2,4-Trichlorobenzene	ug/kg	230 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	210 U
1,2-Dichlorobenzene	ug/kg	94 U	82 U
1,2-Dichloroethane	ug/kg	47 U	41 U
1,2-Dichloropropane	ug/kg	47 U	41 U
1,3-Dichlorobenzene	ug/kg	94 U	82 U
1,4-Dichlorobenzene	ug/kg	94 U	82 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	700 U	620 U
2-Hexanone	ug/kg	2300 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2100 U
Acetone	ug/kg	700 U	620 U
Benzene	ug/kg	47 U	41 U
Bromodichloromethane	ug/kg	94 U	82 U
Bromoform	ug/kg	94 U	82 U
Bromomethane (Methyl bromide)	ug/kg	230 U	210 U
Carbon disulfide	ug/kg	230 U	210 U
Carbon tetrachloride	ug/kg	47 U	41 U
Chlorobenzene	ug/kg	47 U	41 U
Chloroethane	ug/kg	230 U	210 U
Chloroform (Trichloromethane)	ug/kg	47 U	41 U
Chloromethane (Methyl chloride)	ug/kg	230 U	210 U
cis-1,2-Dichloroethene	ug/kg	47 U	41 U
cis-1,3-Dichloropropene	ug/kg	47 U	41 U
Cyclohexane	ug/kg	1100 U	990 U
Dibromochloromethane	ug/kg	47 U	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	94 U	82 U
Ethylbenzene	ug/kg	47 U	41 U

Table 3.11.7

Soil Sample Analytical Results - AOI 7.7 – Former West Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB51-11	SB51-11
Sample Identification		SO-17360-030111-DR-147	SO-17360-030111-DR-148
Sample Date		3/1/2011	3/1/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(19-21) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.7	AOI 7.7
Isopropyl benzene	ug/kg	230 U	210 U
Methyl acetate	ug/kg	1100 U	990 U
Methyl cyclohexane	ug/kg	1100 U	990 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	210 U
Methylene chloride	ug/kg	230 U	210 U
Styrene	ug/kg	47 U	41 U
Tetrachloroethene	ug/kg	47 U	41 U
Toluene	ug/kg	94 U	82 U
trans-1,2-Dichloroethene	ug/kg	47 U	41 U
trans-1,3-Dichloropropene	ug/kg	47 U	41 U
Trichloroethene	ug/kg	**110**[bc]	41 U
Trichlorofluoromethane (CFC-11)	ug/kg	94 U	82 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	210 U
Vinyl chloride	ug/kg	37 U	33 U
Xylenes (total)	ug/kg	140 U	120 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	270 U
Acenaphthene	ug/kg	17 J	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	38 J	270 U
Benzo(a)anthracene	ug/kg	85 J	270 U
Benzo(a)pyrene	ug/kg	60 J	270 U
Benzo(b)fluoranthene	ug/kg	95 J	270 U
Benzo(g,h,i)perylene	ug/kg	32 J	270 U
Benzo(k)fluoranthene	ug/kg	36 J	270 U
Chrysene	ug/kg	79 J	270 U
Dibenz(a,h)anthracene	ug/kg	9.8 J	270 U
Fluoranthene	ug/kg	170 J	270 U
Fluorene	ug/kg	16 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	28 J	270 U
Naphthalene	ug/kg	270 U	270 U
Phenanthrene	ug/kg	140 J	270 U
Pyrene	ug/kg	130 J	270 U

Table 3.11.7

Soil Sample Analytical Results - AOI 7.7 – Former West Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB51-11**	**SB51-11**
Sample Identification		**SO-17360-030111-DR-147**	**SO-17360-030111-DR-148**
Sample Date		**3/1/2011**	**3/1/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(19-21) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.7**	**AOI 7.7**
Metals			
Antimony	ug/kg	170 UJ	40 J
Arsenic	ug/kg	1100	1800
Barium	ug/kg	19900	7400
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	83 U	82 U
Chromium	ug/kg	4200	8500
Cobalt	ug/kg	1900	3100
Copper	ug/kg	2900	7900
Lead	ug/kg	3400	2400
Manganese	ug/kg	127000 J	142000 J
Mercury	ug/kg	41 U	41 U
Nickel	ug/kg	3700	7000
Selenium	ug/kg	150 J	120 J
Silver	ug/kg	83 U	82 U
Thallium	ug/kg	83 U	82 U
Vanadium	ug/kg	7500	8800
Zinc	ug/kg	11600	13300

Table 3.11.8

Soil Sample Analytical Results - AOI 7.8 – Former Paint Booth (Current Steam Clean Booth)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB52-11**	**SB52-11**
Sample Identification		**SO-17360-022211-DR-109**	**SO-17360-022211-DR-110**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.8**	**AOI 7.8**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	46 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	45 U
1,1,2-Trichloroethane	ug/kg	46 U	45 U
1,1-Dichloroethane	ug/kg	46 U	45 U
1,1-Dichloroethene	ug/kg	46 U	45 U
1,2,4-Trichlorobenzene	ug/kg	230 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	230 U
1,2-Dichlorobenzene	ug/kg	91 U	90 U
1,2-Dichloroethane	ug/kg	46 U	45 U
1,2-Dichloropropane	ug/kg	46 U	45 U
1,3-Dichlorobenzene	ug/kg	91 U	90 U
1,4-Dichlorobenzene	ug/kg	91 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	680 U	680 U
2-Hexanone	ug/kg	2300 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2300 U
Acetone	ug/kg	680 U	680 U
Benzene	ug/kg	46 U	45 U
Bromodichloromethane	ug/kg	91 U	90 U
Bromoform	ug/kg	91 U	90 U
Bromomethane (Methyl bromide)	ug/kg	230 UJ	230 UJ
Carbon disulfide	ug/kg	230 U	230 U
Carbon tetrachloride	ug/kg	46 U	45 U
Chlorobenzene	ug/kg	46 U	45 U
Chloroethane	ug/kg	230 U	230 U
Chloroform (Trichloromethane)	ug/kg	46 U	45 U
Chloromethane (Methyl chloride)	ug/kg	230 UJ	230 UJ
cis-1,2-Dichloroethene	ug/kg	46 U	45 U
cis-1,3-Dichloropropene	ug/kg	46 U	45 U
Cyclohexane	ug/kg	1100 U	1100 U
Dibromochloromethane	ug/kg	46 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	91 U	90 U
Ethylbenzene	ug/kg	46 U	45 U

Soil Sample Analytical Results - AOI 7.8 – Former Paint Booth (Current Steam Clean Booth)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB52-11**	**SB52-11**
Sample Identification		**SO-17360-022211-DR-109**	**SO-17360-022211-DR-110**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.8**	**AOI 7.8**
Isopropyl benzene	ug/kg	230 U	230 U
Methyl acetate	ug/kg	1100 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	230 U
Methylene chloride	ug/kg	230 U	230 U
Styrene	ug/kg	46 U	45 U
Tetrachloroethene	ug/kg	46 U	45 U
Toluene	ug/kg	91 U	90 U
trans-1,2-Dichloroethene	ug/kg	46 U	45 U
trans-1,3-Dichloropropene	ug/kg	46 U	45 U
Trichloroethene	ug/kg	46 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	91 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	230 U
Vinyl chloride	ug/kg	37 U	36 U
Xylenes (total)	ug/kg	140 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	17 J	270 U
Acenaphthene	ug/kg	280 U	270 U
Acenaphthylene	ug/kg	280 U	270 U
Anthracene	ug/kg	280 U	270 U
Benzo(a)anthracene	ug/kg	12 J	270 U
Benzo(a)pyrene	ug/kg	9.6 J	270 U
Benzo(b)fluoranthene	ug/kg	20 J	270 U
Benzo(g,h,i)perylene	ug/kg	280 U	270 U
Benzo(k)fluoranthene	ug/kg	280 U	270 U
Chrysene	ug/kg	15 J	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U
Fluoranthene	ug/kg	17 J	270 U
Fluorene	ug/kg	280 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	270 U
Naphthalene	ug/kg	14 J	270 U
Phenanthrene	ug/kg	14 J	270 U
Pyrene	ug/kg	14 J	270 U

Table 3.11.8

Soil Sample Analytical Results - AOI 7.8 – Former Paint Booth (Current Steam Clean Booth)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB52-11**	**SB52-11**
Sample Identification		**SO-17360-022211-DR-109**	**SO-17360-022211-DR-110**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.8**	**AOI 7.8**
Metals			
Antimony	ug/kg	31 J	160 UJ
Arsenic	ug/kg	2000	1800
Barium	ug/kg	16300	4900
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	85 U	82 U
Chromium	ug/kg	7500	4300
Cobalt	ug/kg	2500	2000
Copper	ug/kg	6000	4000
Lead	ug/kg	4500	1600
Manganese	ug/kg	156000	150000
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	5900	3800
Selenium	ug/kg	220 J	190 J
Silver	ug/kg	85 U	82 U
Thallium	ug/kg	85 U	82 U
Vanadium	ug/kg	8500	5900
Zinc	ug/kg	10600	7000

Table 3.11.9

Soil Sample Analytical Results - AOI 7.9 – Former East Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB53-11	SB53-11
Sample Identification		SO-17360-021811-DR-090	SO-17360-021811-DR-091
Sample Date		2/18/2011	2/18/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 7.9	AOI 7.9
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	46 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	44 U
1,1,2-Trichloroethane	ug/kg	46 U	44 U
1,1-Dichloroethane	ug/kg	46 U	44 U
1,1-Dichloroethene	ug/kg	46 U	44 U
1,2,4-Trichlorobenzene	ug/kg	230 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	220 U
1,2-Dichlorobenzene	ug/kg	91 U	89 U
1,2-Dichloroethane	ug/kg	46 U	44 U
1,2-Dichloropropane	ug/kg	46 U	44 U
1,3-Dichlorobenzene	ug/kg	91 U	89 U
1,4-Dichlorobenzene	ug/kg	91 U	89 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	690 U	670 U
2-Hexanone	ug/kg	2300 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2200 U
Acetone	ug/kg	690 U	670 U
Benzene	ug/kg	46 U	44 U
Bromodichloromethane	ug/kg	91 U	89 U
Bromoform	ug/kg	91 U	89 U
Bromomethane (Methyl bromide)	ug/kg	230 U	220 U
Carbon disulfide	ug/kg	230 U	220 U
Carbon tetrachloride	ug/kg	46 U	44 U
Chlorobenzene	ug/kg	46 U	44 U
Chloroethane	ug/kg	230 U	220 U
Chloroform (Trichloromethane)	ug/kg	46 U	44 U
Chloromethane (Methyl chloride)	ug/kg	230 U	220 U
cis-1,2-Dichloroethene	ug/kg	46 U	44 U
cis-1,3-Dichloropropene	ug/kg	46 U	44 U
Cyclohexane	ug/kg	1100 U	1100 U
Dibromochloromethane	ug/kg	46 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	91 U	89 U
Ethylbenzene	ug/kg	46 U	44 U

Table 3.11.9

Soil Sample Analytical Results - AOI 7.9 – Former East Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB53-11**	**SB53-11**
Sample Identification		**SO-17360-021811-DR-090**	**SO-17360-021811-DR-091**
Sample Date		**2/18/2011**	**2/18/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.9**	**AOI 7.9**
Isopropyl benzene	ug/kg	230 U	220 U
Methyl acetate	ug/kg	1100 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	220 U
Methylene chloride	ug/kg	**190 J[bc]**	**180 J[bc]**
Styrene	ug/kg	46 U	44 U
Tetrachloroethene	ug/kg	46 U	44 U
Toluene	ug/kg	91 U	89 U
trans-1,2-Dichloroethene	ug/kg	46 U	44 U
trans-1,3-Dichloropropene	ug/kg	46 U	44 U
Trichloroethene	ug/kg	53	22 J
Trichlorofluoromethane (CFC-11)	ug/kg	91 U	89 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	220 U
Vinyl chloride	ug/kg	37 U	35 U
Xylenes (total)	ug/kg	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	68 J	14 J
Acenaphthene	ug/kg	12 J	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	31 J	270 U
Benzo(a)anthracene	ug/kg	130 J	270 U
Benzo(a)pyrene	ug/kg	110 J	270 U
Benzo(b)fluoranthene	ug/kg	160 J	18 J
Benzo(g,h,i)perylene	ug/kg	73 J	270 U
Benzo(k)fluoranthene	ug/kg	62 J	270 U
Chrysene	ug/kg	140 J	270 U
Dibenz(a,h)anthracene	ug/kg	22 J	270 U
Fluoranthene	ug/kg	230 J	31 J
Fluorene	ug/kg	14 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	59 J	270 U
Naphthalene	ug/kg	32 J	270 U
Phenanthrene	ug/kg	190 J	32 J
Pyrene	ug/kg	170 J	23 J

Table 3.11.9

Soil Sample Analytical Results - AOI 7.9 – Former East Paint Booth
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB53-11**	**SB53-11**
Sample Identification		**SO-17360-021811-DR-090**	**SO-17360-021811-DR-091**
Sample Date		**2/18/2011**	**2/18/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 7.9**	**AOI 7.9**
Metals			
Antimony	ug/kg	36 J	170 UJ
Arsenic	ug/kg	1400	2000
Barium	ug/kg	16300	6300
Beryllium	ug/kg	170 U	170 U
Cadmium	ug/kg	96	83 U
Chromium	ug/kg	3700	5700
Cobalt	ug/kg	1700	2100
Copper	ug/kg	4400 J	3800 J
Lead	ug/kg	6900	1700
Manganese	ug/kg	101000 J	113000 J
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	3600	4000
Selenium	ug/kg	120 J	110 J
Silver	ug/kg	83 U	83 U
Thallium	ug/kg	83 U	83 U
Vanadium	ug/kg	6200	6800
Zinc	ug/kg	9400	8500

Table 3.12.1

Soil Sample Analytical Results - AOI 8.1 – Mineral Oil and Mineral Seal Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB54-11**	**SB54-11**	**SB55-11**	**SB55-11**
Sample Identification		**SO-17360-022111-DR-101**	**SO-17360-022811-DR-132**	**SO-17360-022111-DR-102**	**SO-17360-022811-DR-133**
Sample Date		**2/21/2011**	**2/28/2011**	**2/21/2011**	**2/28/2011**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(17-19) ft BGS**	**(2-4) ft BGS**	**(15-17) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.1**	**AOI 8.1**	**AOI 8.1**	**AOI 8.1**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	48 U	46 U	48 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	46 U	48 U	47 U
1,1,2-Trichloroethane	ug/kg	48 U	46 U	48 U	47 U
1,1-Dichloroethane	ug/kg	48 U	46 U	48 U	47 U
1,1-Dichloroethene	ug/kg	48 U	46 U	48 U	47 U
1,2,4-Trichlorobenzene	ug/kg	240 U	230 U	240 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	230 U	240 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	230 U	240 U	230 U
1,2-Dichlorobenzene	ug/kg	96 U	93 U	96 U	93 U
1,2-Dichloroethane	ug/kg	48 U	46 U	48 U	47 U
1,2-Dichloropropane	ug/kg	48 U	46 U	48 U	47 U
1,3-Dichlorobenzene	ug/kg	96 U	93 U	96 U	93 U
1,4-Dichlorobenzene	ug/kg	96 U	93 U	96 U	93 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	720 U	700 U	720 U	700 U
2-Hexanone	ug/kg	2400 U	2300 U	2400 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	2300 U	2400 U	2300 U
Acetone	ug/kg	720 U	700 U	720 U	700 U
Benzene	ug/kg	48 U	46 U	48 U	47 U
Bromodichloromethane	ug/kg	96 U	93 U	96 U	93 U
Bromoform	ug/kg	96 U	93 U	96 U	93 U
Bromomethane (Methyl bromide)	ug/kg	240 U	230 U	240 U	230 U
Carbon disulfide	ug/kg	240 U	230 U	240 U	230 U
Carbon tetrachloride	ug/kg	48 U	46 U	48 U	47 U
Chlorobenzene	ug/kg	48 U	46 U	48 U	47 U
Chloroethane	ug/kg	240 U	230 U	240 U	230 U
Chloroform (Trichloromethane)	ug/kg	48 U	46 U	48 U	47 U
Chloromethane (Methyl chloride)	ug/kg	240 U	230 U	240 U	230 U
cis-1,2-Dichloroethene	ug/kg	48 U	46 U	48 U	47 U
cis-1,3-Dichloropropene	ug/kg	48 U	46 U	48 U	47 U
Cyclohexane	ug/kg	1100 U	1100 U	1200 U	1100 U
Dibromochloromethane	ug/kg	48 U	46 U	48 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	96 U	93 U	96 U	93 U
Ethylbenzene	ug/kg	48 U	46 U	48 U	47 U

Table 3.12.1

Soil Sample Analytical Results - AOI 8.1 – Mineral Oil and Mineral Seal Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB54-11**	**SB54-11**	**SB55-11**	**SB55-11**
Sample Identification		**SO-17360-022111-DR-101**	**SO-17360-022811-DR-132**	**SO-17360-022111-DR-102**	**SO-17360-022811-DR-133**
Sample Date		**2/21/2011**	**2/28/2011**	**2/21/2011**	**2/28/2011**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(17-19) ft BGS**	**(2-4) ft BGS**	**(15-17) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.1**	**AOI 8.1**	**AOI 8.1**	**AOI 8.1**
Isopropyl benzene	ug/kg	240 U	230 U	240 U	230 U
Methyl acetate	ug/kg	67 J	120 J	82 J	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U	1200 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	240 U	230 U	240 U	230 U
Methylene chloride	ug/kg	240 U	230 U	240 U	230 U
Styrene	ug/kg	48 U	46 U	48 U	47 U
Tetrachloroethene	ug/kg	48 U	46 U	48 U	47 U
Toluene	ug/kg	96 U	93 U	96 U	93 U
trans-1,2-Dichloroethene	ug/kg	48 U	46 U	48 U	47 U
trans-1,3-Dichloropropene	ug/kg	48 U	46 U	48 U	47 U
Trichloroethene	ug/kg	48 U	46 U	48 U	16 J
Trichlorofluoromethane (CFC-11)	ug/kg	96 U	93 U	96 U	93 U
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	230 U	240 U	230 U
Vinyl chloride	ug/kg	38 U	37 U	39 U	37 U
Xylenes (total)	ug/kg	140 U	140 U	140 U	13 J
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	270 U	270 U	270 U	19 J
Acenaphthene	ug/kg	270 U	270 U	270 U	22 J
Acenaphthylene	ug/kg	270 U	270 U	270 U	280 U
Anthracene	ug/kg	270 U	270 U	270 U	52 J
Benzo(a)anthracene	ug/kg	18 J	270 U	270 U	180 J
Benzo(a)pyrene	ug/kg	19 J	270 U	270 U	150 J
Benzo(b)fluoranthene	ug/kg	26 J	270 U	270 U	200 J
Benzo(g,h,i)perylene	ug/kg	14 J	270 U	270 U	110 J
Benzo(k)fluoranthene	ug/kg	15 J	270 U	270 U	98 J
Chrysene	ug/kg	21 J	270 U	270 U	170 J
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	270 U	29 J
Fluoranthene	ug/kg	27 J	270 U	270 U	360
Fluorene	ug/kg	270 U	270 U	270 U	18 J
Indeno(1,2,3-cd)pyrene	ug/kg	13 J	270 U	270 U	88 J
Naphthalene	ug/kg	270 U	270 U	270 U	15 J
Phenanthrene	ug/kg	11 J	270 U	270 U	210 J
Pyrene	ug/kg	23 J	270 U	270 U	270 J

Table 3.12.1

Soil Sample Analytical Results - AOI 8.1 – Mineral Oil and Mineral Seal Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB54-11	SB54-11	SB55-11	SB55-11
Sample Identification		SO-17360-022111-DR-101	SO-17360-022811-DR-132	SO-17360-022111-DR-102	SO-17360-022811-DR-133
Sample Date		2/21/2011	2/28/2011	2/21/2011	2/28/2011
Sample Type					
Sample Depth		(2-4) ft BGS	(17-19) ft BGS	(2-4) ft BGS	(15-17) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.1	AOI 8.1	AOI 8.1	AOI 8.1
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	270 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	270 U	21 J
Total PCBs	ug/kg	0	0	0	21 J

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB56-11	SB56-11	SB168-12	SB168-12	SB168-12
Sample Identification		SO-17360-030411-DR-178	SO-17360-030411-DR-179	S-17360-021012-EM-029	S-17360-021012-EM-030	S-17360-021012-EM-031
Sample Date		3/4/2011	3/4/2011	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(1-3) ft BGS	(12.5-14.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	210	45 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	60 U	45 U	--	--	--
1,1,2-Trichloroethane	ug/kg	60 U	45 U	--	--	--
1,1-Dichloroethane	ug/kg	60 U	45 U	--	--	--
1,1-Dichloroethene	ug/kg	**72**[e]	45 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	300 U	220 U	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	110 U	110 U	110 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	300 U	220 U	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	300 U	220 U	--	--	--
1,2-Dichlorobenzene	ug/kg	120 U	89 U	--	--	--
1,2-Dichloroethane	ug/kg	60 U	45 U	--	--	--
1,2-Dichloropropane	ug/kg	60 U	45 U	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	110 U	110 U	110 U
1,3-Dichlorobenzene	ug/kg	120 U	89 U	--	--	--
1,4-Dichlorobenzene	ug/kg	120 U	89 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	160 J	670 U	--	--	--
2-Hexanone	ug/kg	3000 U	2200 U	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3000 U	2200 U	--	--	--
Acetone	ug/kg	900 U	670 U	--	--	--
Benzene	ug/kg	60 U	45 U	55 U	54 U	53 U
Bromodichloromethane	ug/kg	120 U	89 U	--	--	--
Bromoform	ug/kg	120 U	89 U	--	--	--
Bromomethane (Methyl bromide)	ug/kg	300 U	220 U	--	--	--
Carbon disulfide	ug/kg	300 U	220 U	--	--	--
Carbon tetrachloride	ug/kg	60 U	45 U	--	--	--
Chlorobenzene	ug/kg	60 U	45 U	--	--	--
Chloroethane	ug/kg	300 U	220 U	--	--	--
Chloroform (Trichloromethane)	ug/kg	60 U	45 U	--	--	--
Chloromethane (Methyl chloride)	ug/kg	300 U	220 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	60 U	45 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	60 U	45 U	--	--	--
Cyclohexane	ug/kg	340 J	1100 U	--	--	--
Dibromochloromethane	ug/kg	60 U	45 U	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB56-11	SB56-11	SB168-12	SB168-12	SB168-12
Sample Identification		SO-17360-030411-DR-178	SO-17360-030411-DR-179	S-17360-021012-EM-029	S-17360-021012-EM-030	S-17360-021012-EM-031
Sample Date		3/4/2011	3/4/2011	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(1-3) ft BGS	(12.5-14.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	89 U	--	--	--
Ethylbenzene	ug/kg	16 J	45 U	55 U	54 U	53 U
Isopropyl benzene	ug/kg	19 J	220 U	--	--	--
Methyl acetate	ug/kg	470 J	1100 U	--	--	--
Methyl cyclohexane	ug/kg	1100 J	19 J	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	300 U	220 U	--	--	--
Methylene chloride	ug/kg	300 U	220 U	--	--	--
Styrene	ug/kg	60 U	45 U	--	--	--
Tetrachloroethene	ug/kg	60 U	45 U	--	--	--
Toluene	ug/kg	51 J	89 U	110 U	110 U	110 U
trans-1,2-Dichloroethene	ug/kg	60 U	45 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	60 U	45 U	--	--	--
Trichloroethene	ug/kg	60 U	45 U	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	89 U	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	300 U	220 U	--	--	--
Vinyl chloride	ug/kg	48 U	36 U	--	--	--
Xylenes (total)	ug/kg	250	130 U	160 U	160 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	49 J	270 U	31 J	29 J	1.1 J
Acenaphthene	ug/kg	270 U	270 U	110 J	81 J	350 U
Acenaphthylene	ug/kg	270 U	270 U	4.6 J	4.1 J	350 U
Anthracene	ug/kg	270 U	270 U	180 J	190 J	1.5 J
Benzo(a)anthracene	ug/kg	11 J	270 U	830 J	730 J	12 J
Benzo(a)pyrene	ug/kg	13 J	270 U	590 J	460 J	4.8 J
Benzo(b)fluoranthene	ug/kg	30 J	270 U	1400 J	1000 J	22 J
Benzo(g,h,i)perylene	ug/kg	15 J	270 U	520 J	430 J	10 J
Benzo(k)fluoranthene	ug/kg	9.4 J	270 U	630 J	470 J	13 J
Chrysene	ug/kg	22 J	270 U	930 J	670 J	12 J
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	94 J	110 J	350 U
Fluoranthene	ug/kg	16 J	270 U	2500 J	2500 J	30 J
Fluorene	ug/kg	270 U	270 U	56 J	49 J	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	11 J	270 U	390 J	330 J	13 J
Naphthalene	ug/kg	19 J	270 U	12 J	12 J	350 U

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB56-11	SB56-11	SB168-12	SB168-12	SB168-12
Sample Identification		SO-17360-030411-DR-178	SO-17360-030411-DR-179	S-17360-021012-EM-029	S-17360-021012-EM-030	S-17360-021012-EM-031
Sample Date		3/4/2011	3/4/2011	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(1-3) ft BGS	(12.5-14.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Phenanthrene	ug/kg	33 J	270 U	920 J	1200 J	13 J
Pyrene	ug/kg	14 J	270 U	1900 J	1900 J	19 J
Total solids	%	--	--	91	92	95
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	--	--	140000	56000	18000

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB168-12	SB168-12	SB168-12	SB168-12	SB168-12
Sample Identification		S-17360-021012-EM-032	S-17360-021012-EM-033	S-17360-021012-EM-034	S-17360-021012-EM-035	S-17360-021012-EM-036
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type				Duplicate		
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	110 U	110 U	110 U	110 U	120 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	110 U	110 U	110 U	110 U	120 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	54 U	54 U	54 U	54 U	58 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB168-12	SB168-12	SB168-12	SB168-12	SB168-12
Sample Identification		S-17360-021012-EM-032	S-17360-021012-EM-033	S-17360-021012-EM-034	S-17360-021012-EM-035	S-17360-021012-EM-036
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type				Duplicate		
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	54 U	54 U	54 U	54 U	58 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	110 U	110 U	110 U	110 U	120 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	160 U	160 U	160 U	160 U	170 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	350 U	4.8 J	18 J	21 J	350 U
Acenaphthene	ug/kg	350 U	13 J	49 J	54 J	350 U
Acenaphthylene	ug/kg	350 U	350 U	360 U	360 U	350 U
Anthracene	ug/kg	350 U	21 J	92 J	91 J	350 U
Benzo(a)anthracene	ug/kg	350 U	90 J	360 J	370 J	350 U
Benzo(a)pyrene	ug/kg	350 U	63 J	260 J	240 J	350 U
Benzo(b)fluoranthene	ug/kg	7.4 J	140 J	580 J	580 J	4.4 J
Benzo(g,h,i)perylene	ug/kg	8.5 J	25 J	160 J	220 J	8 J
Benzo(k)fluoranthene	ug/kg	4.8 J	71 J	310 J	210 J	2.5 J
Chrysene	ug/kg	3.7 J	79 J	330 J	320 J	2.9 J
Dibenz(a,h)anthracene	ug/kg	350 U	350 UJ	48 J	63 J	350 U
Fluoranthene	ug/kg	6.6 J	210 J	740	640	8 J
Fluorene	ug/kg	350 U	9.6 J	32 J	29 J	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	12 J	27 J	130 J	170 J	12 J
Naphthalene	ug/kg	350 U	3.3 J	15 J	12 J	350 U

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB168-12**	**SB168-12**	**SB168-12**	**SB168-12**	**SB168-12**
Sample Identification		**S-17360-021012-EM-032**	**S-17360-021012-EM-033**	**S-17360-021012-EM-034**	**S-17360-021012-EM-035**	**S-17360-021012-EM-036**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type				**Duplicate**		
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	350 U	120 J	480	490	350 U
Pyrene	ug/kg	4.8 J	200 J	830 J	820 J	4.7 J
Total solids	%	93	93	92	92	94
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	11000 U	7600 J	95000 J	120000	11000 U

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB169-12	SB169-12	SB169-12	SB169-12	SB169-12
Sample Identification		S-17360-021012-EM-022	S-17360-021012-EM-023	S-17360-021012-EM-024	S-17360-021012-EM-025	S-17360-021012-EM-026
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	110 U	100 U	120 U	110 U	110 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	110 U	100 U	120 U	110 U	110 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	53 U	52 U	58 U	53 U	57 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB169-12**	**SB169-12**	**SB169-12**	**SB169-12**	**SB169-12**
Sample Identification		**S-17360-021012-EM-022**	**S-17360-021012-EM-023**	**S-17360-021012-EM-024**	**S-17360-021012-EM-025**	**S-17360-021012-EM-026**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	53 U	52 U	58 U	53 U	57 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	110 U	100 U	120 U	110 U	110 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	160 U	160 U	170 U	160 U	170 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	24 J	3.1 J	350 U	1.8 J	2.9 J
Acenaphthene	ug/kg	23 J	350 U	7.9 J	350 U	350 U
Acenaphthylene	ug/kg	350 U	350 U	350 U	350 U	15 J
Anthracene	ug/kg	47 J	1.7 J	17 J	350 U	7.5 J
Benzo(a)anthracene	ug/kg	310 J	12 J	65 J	350 U	91 J
Benzo(a)pyrene	ug/kg	210 J	7.2 J	40 J	350 U	97 J
Benzo(b)fluoranthene	ug/kg	500 J	25 J	66 J	2.9 J	140 J
Benzo(g,h,i)perylene	ug/kg	110 J	9.3 J	13 J	8 J	29 J
Benzo(k)fluoranthene	ug/kg	190 J	14 J	51 J	2.5 J	68 J
Chrysene	ug/kg	260 J	14 J	51 J	2.2 J	79 J
Dibenz(a,h)anthracene	ug/kg	33 J	350 UJ	350 U	350 U	350 U
Fluoranthene	ug/kg	580	33 J	190 J	5.5 J	130 J
Fluorene	ug/kg	15 J	350 U	6.5 J	350 U	4.3 J
Indeno(1,2,3-cd)pyrene	ug/kg	96 J	12 J	19 J	12 J	30 J
Naphthalene	ug/kg	14 J	1.7 J	350 U	1.5 J	3.9 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB169-12**	**SB169-12**	**SB169-12**	**SB169-12**	**SB169-12**
Sample Identification		**S-17360-021012-EM-022**	**S-17360-021012-EM-023**	**S-17360-021012-EM-024**	**S-17360-021012-EM-025**	**S-17360-021012-EM-026**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	280 J	14 J	75 J	4.4 J	40 J
Pyrene	ug/kg	620 J	25 J	100 J	3.6 J	150 J
Total solids	%	95	96	94	94	95
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	72000	5400 J	11000 U	11000	11000 U

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB169-12	SB169-12	SB170-12	SB170-12	SB170-12
Sample Identification		S-17360-021012-EM-027	S-17360-021012-EM-028	S-17360-021012-EM-007	S-17360-021012-EM-008	S-17360-021012-EM-009
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	110 U	110 U	110 U	95 U	100 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	110 U	110 U	110 U	95 U	100 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	54 U	53 U	53 U	48 U	52 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB169-12**	**SB169-12**	**SB170-12**	**SB170-12**	**SB170-12**
Sample Identification		**S-17360-021012-EM-027**	**S-17360-021012-EM-028**	**S-17360-021012-EM-007**	**S-17360-021012-EM-008**	**S-17360-021012-EM-009**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	54 U	53 U	53 U	48 U	52 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	110 U	110 U	110 U	95 U	100 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	160 U	160 U	160 U	140 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	3.3 J	6.1 J	2.1 J	8.4 J	2.1 J
Acenaphthene	ug/kg	350 U	350 U	7.5 J	350 U	340 U
Acenaphthylene	ug/kg	16 J	350 U	350 U	350 U	340 U
Anthracene	ug/kg	12 J	2.5 J	10 J	2.5 J	340 U
Benzo(a)anthracene	ug/kg	80 J	12 J	44 J	14 J	9.8 J
Benzo(a)pyrene	ug/kg	76 J	5.7 J	29 J	9.8 J	5.9 J
Benzo(b)fluoranthene	ug/kg	110 J	27 J	62 J	32 J	25 J
Benzo(g,h,i)perylene	ug/kg	23 J	11 J	14 J	13 J	11 J
Benzo(k)fluoranthene	ug/kg	74 J	14 J	42 J	14 J	16 J
Chrysene	ug/kg	73 J	13 J	46 J	16 J	15 J
Dibenz(a,h)anthracene	ug/kg	350 U	350 UJ	350 UJ	350 U	340 U
Fluoranthene	ug/kg	140 J	35 J	150 J	32 J	23 J
Fluorene	ug/kg	8.8 J	350 U	3.6 J	350 U	340 U
Indeno(1,2,3-cd)pyrene	ug/kg	25 J	14 J	17 J	14 J	15 J
Naphthalene	ug/kg	4.1 J	4 J	1.4 J	5.6 J	2.4 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB169-12	SB169-12	SB170-12	SB170-12	SB170-12
Sample Identification		S-17360-021012-EM-027	S-17360-021012-EM-028	S-17360-021012-EM-007	S-17360-021012-EM-008	S-17360-021012-EM-009
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Phenanthrene	ug/kg	61 J	17 J	78 J	21 J	6.6 J
Pyrene	ug/kg	160 J	33 J	120 J	26 J	19 J
Total solids	%	93	94	95	95	96
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	11000 U	7100 J	26000	38000	2300 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB170-12	SB170-12	SB170-12	SB170-12	SB171-12
Sample Identification		S-17360-021012-EM-010	S-17360-021012-EM-011	S-17360-021012-EM-012	S-17360-021012-EM-013	S-17360-021012-EM-014
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	120 U	93 U	98 U	96 U	100 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	120 U	93 U	98 U	96 U	100 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	58 U	47 U	49 U	48 U	52 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB170-12	SB170-12	SB170-12	SB170-12	SB171-12
Sample Identification		S-17360-021012-EM-010	S-17360-021012-EM-011	S-17360-021012-EM-012	S-17360-021012-EM-013	S-17360-021012-EM-014
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	58 U	47 U	49 U	48 U	52 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	120 U	93 U	98 U	96 U	100 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	170 U	140 U	150 U	140 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	350 U	8.5 J	5.6 J	340 U	350 U
Acenaphthene	ug/kg	350 U	350 U	17 J	340 U	350 U
Acenaphthylene	ug/kg	350 U	350 U	350 U	340 U	350 U
Anthracene	ug/kg	350 U	3.2 J	18 J	340 U	350 U
Benzo(a)anthracene	ug/kg	350 U	18 J	84 J	340 U	350 U
Benzo(a)pyrene	ug/kg	350 U	10 J	56 J	340 U	350 U
Benzo(b)fluoranthene	ug/kg	350 U	34 J	120 J	340 U	3.2 J
Benzo(g,h,i)perylene	ug/kg	7.8 J	15 J	29 J	7.8 J	8.9 J
Benzo(k)fluoranthene	ug/kg	350 U	24 J	80 J	340 U	2.1 J
Chrysene	ug/kg	350 U	23 J	75 J	340 U	3.2 J
Dibenz(a,h)anthracene	ug/kg	350 U	350 UJ	1700 U	340 U	350 U
Fluoranthene	ug/kg	350 U	43 J	230 J	340 U	13 J
Fluorene	ug/kg	350 U	350 U	8.4 J	340 U	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	11 J	16 J	25 J	11 J	12 J
Naphthalene	ug/kg	350 U	7.4 J	2.8 J	340 U	350 U

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB170-12**	**SB170-12**	**SB170-12**	**SB170-12**	**SB171-12**
Sample Identification		**S-17360-021012-EM-010**	**S-17360-021012-EM-011**	**S-17360-021012-EM-012**	**S-17360-021012-EM-013**	**S-17360-021012-EM-014**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**	**(0.5-2.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	350 U	25 J	140 J	340 U	7.1 J
Pyrene	ug/kg	350 U	36 J	290 J	340 U	6 J
Total solids	%	95	94	95	97	95
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	1400 J	44000	35000	1700 J	1900 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB171-12	SB171-12	SB171-12	SB171-12	SB171-12
Sample Identification		S-17360-021012-EM-015	S-17360-021012-EM-016	S-17360-021012-EM-017	S-17360-021012-EM-018	S-17360-021012-EM-019
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type						
Sample Depth		(2.5-4.5) ft BGS	(4.5-6.5) ft BGS	(6.5-8.5) ft BGS	(8.5-10.5) ft BGS	(10.5-12.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	97 U	110 U	100 U	98 U	100 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	97 U	110 U	100 U	98 U	100 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	48 U	54 U	50 U	49 U	52 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB171-12**	**SB171-12**	**SB171-12**	**SB171-12**	**SB171-12**
Sample Identification		**S-17360-021012-EM-015**	**S-17360-021012-EM-016**	**S-17360-021012-EM-017**	**S-17360-021012-EM-018**	**S-17360-021012-EM-019**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(2.5-4.5) ft BGS**	**(4.5-6.5) ft BGS**	**(6.5-8.5) ft BGS**	**(8.5-10.5) ft BGS**	**(10.5-12.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	48 U	54 U	50 U	49 U	52 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	97 U	110 U	100 U	98 U	100 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	140 U	160 U	150 U	150 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	3.6 J	350 U	350 U	340 U	350 U
Acenaphthene	ug/kg	350 U	350 U	350 U	340 U	350 U
Acenaphthylene	ug/kg	350 U	350 U	350 U	340 U	350 U
Anthracene	ug/kg	5.4 J	350 U	350 U	340 U	350 U
Benzo(a)anthracene	ug/kg	32 J	4 J	350 U	340 U	350 U
Benzo(a)pyrene	ug/kg	27 J	350 U	350 U	340 U	350 U
Benzo(b)fluoranthene	ug/kg	76 J	6.1 J	350 U	340 U	350 U
Benzo(g,h,i)perylene	ug/kg	13 J	9.4 J	350 U	340 U	350 U
Benzo(k)fluoranthene	ug/kg	34 J	3.6 J	350 U	340 U	350 U
Chrysene	ug/kg	34 J	4.3 J	350 U	340 U	350 U
Dibenz(a,h)anthracene	ug/kg	350 U	350 U	350 U	340 U	350 U
Fluoranthene	ug/kg	77 J	11 J	350 U	340 U	350 U
Fluorene	ug/kg	350 U	350 U	350 U	340 U	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	17 J	13 J	350 U	340 U	350 U
Naphthalene	ug/kg	3.2 J	350 U	350 U	340 U	350 U

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB171-12**	**SB171-12**	**SB171-12**	**SB171-12**	**SB171-12**
Sample Identification		**S-17360-021012-EM-015**	**S-17360-021012-EM-016**	**S-17360-021012-EM-017**	**S-17360-021012-EM-018**	**S-17360-021012-EM-019**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type						
Sample Depth		**(2.5-4.5) ft BGS**	**(4.5-6.5) ft BGS**	**(6.5-8.5) ft BGS**	**(8.5-10.5) ft BGS**	**(10.5-12.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	30 J	6.1 J	350 U	340 U	350 U
Pyrene	ug/kg	49 J	6.1 J	350 U	340 U	350 U
Total solids	%	94	93	94	96	96
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	5600 J	1600 J	1600 J	1800 J	1800 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB171-12	SB171-12	SB172-12	SB172-12	SB172-12
Sample Identification		S-17360-021012-EM-020	S-17360-021012-EM-021	S-17360-021012-EM-001	S-17360-021012-EM-002	S-17360-021012-EM-003
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type			Duplicate			
Sample Depth		(12.5-14.5) ft BGS	(12.5-14.5) ft BGS	(3-5) ft BGS	(5-7) ft BGS	(7-9) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	93 U	99 U	110 U	110 U	98 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	93 U	99 U	110 U	110 U	98 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	46 U	50 U	57 U	54 U	49 U
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB171-12	SB171-12	SB172-12	SB172-12	SB172-12
Sample Identification		S-17360-021012-EM-020	S-17360-021012-EM-021	S-17360-021012-EM-001	S-17360-021012-EM-002	S-17360-021012-EM-003
Sample Date		2/10/2012	2/10/2012	2/10/2012	2/10/2012	2/10/2012
Sample Type			Duplicate			
Sample Depth		(12.5-14.5) ft BGS	(12.5-14.5) ft BGS	(3-5) ft BGS	(5-7) ft BGS	(7-9) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2	AOI 8.2
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	46 U	50 U	57 U	54 U	49 U
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	93 U	99 U	110 U	110 U	98 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	140 U	150 U	170 U	160 U	150 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	350 U	350 U	32 J	360 U	2.5 J
Acenaphthene	ug/kg	350 U	350 U	100 J	360 U	350 U
Acenaphthylene	ug/kg	350 U	350 U	4.2 J	360 U	350 U
Anthracene	ug/kg	350 U	350 U	180 J	5 J	6.7 J
Benzo(a)anthracene	ug/kg	350 U	350 U	890 J	25 J	44 J
Benzo(a)pyrene	ug/kg	350 U	350 U	590 J	20 J	30 J
Benzo(b)fluoranthene	ug/kg	350 U	350 U	1500 J	30 J	75 J
Benzo(g,h,i)perylene	ug/kg	350 U	350 U	550 J	13 J	14 J
Benzo(k)fluoranthene	ug/kg	350 U	350 U	530 J	19 J	32 J
Chrysene	ug/kg	350 U	1.4 J	870 J	26 J	45 J
Dibenz(a,h)anthracene	ug/kg	350 U	350 U	120 J	360 U	350 UJ
Fluoranthene	ug/kg	350 U	350 U	2400 J	59 J	110 J
Fluorene	ug/kg	350 U	350 U	68 J	360 U	2.5 J
Indeno(1,2,3-cd)pyrene	ug/kg	350 U	350 U	470 J	16 J	17 J
Naphthalene	ug/kg	350 U	350 U	15 J	360 U	2.1 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB171-12**	**SB171-12**	**SB172-12**	**SB172-12**	**SB172-12**
Sample Identification		**S-17360-021012-EM-020**	**S-17360-021012-EM-021**	**S-17360-021012-EM-001**	**S-17360-021012-EM-002**	**S-17360-021012-EM-003**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type			**Duplicate**			
Sample Depth		**(12.5-14.5) ft BGS**	**(12.5-14.5) ft BGS**	**(3-5) ft BGS**	**(5-7) ft BGS**	**(7-9) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	350 U	350 U	900	26 J	43 J
Pyrene	ug/kg	350 U	350 U	2000 J	39 J	84 J
Total solids	%	95	94	88	92	94
Total Petroleum Hydrocarbons (TPH)						
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	10000 U	11000 U	130000	6000 J	4300 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB172-12	SB172-12	SB172-12
Sample Identification		S-17360-021012-EM-004	S-17360-021012-EM-005	S-17360-021012-EM-006
Sample Date		2/10/2012	2/10/2012	2/10/2012
Sample Type				
Sample Depth		(9-11) ft BGS	(11-13) ft BGS	(13-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--
1,2,4-Trimethylbenzene	ug/kg	110 U	110 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--
1,3,5-Trimethylbenzene	ug/kg	110 U	110 U	210 U
1,3-Dichlorobenzene	ug/kg	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--
2-Hexanone	ug/kg	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--
Acetone	ug/kg	--	--	--
Benzene	ug/kg	54 U	53 U	100 U
Bromodichloromethane	ug/kg	--	--	--
Bromoform	ug/kg	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--
Carbon disulfide	ug/kg	--	--	--
Carbon tetrachloride	ug/kg	--	--	--
Chlorobenzene	ug/kg	--	--	--
Chloroethane	ug/kg	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--
Cyclohexane	ug/kg	--	--	--
Dibromochloromethane	ug/kg	--	--	--

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB172-12	SB172-12	SB172-12
Sample Identification		S-17360-021012-EM-004	S-17360-021012-EM-005	S-17360-021012-EM-006
Sample Date		2/10/2012	2/10/2012	2/10/2012
Sample Type				
Sample Depth		(9-11) ft BGS	(11-13) ft BGS	(13-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.2	AOI 8.2	AOI 8.2
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--
Ethylbenzene	ug/kg	54 U	53 U	100 U
Isopropyl benzene	ug/kg	--	--	--
Methyl acetate	ug/kg	--	--	--
Methyl cyclohexane	ug/kg	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--
Methylene chloride	ug/kg	--	--	--
Styrene	ug/kg	--	--	--
Tetrachloroethene	ug/kg	--	--	--
Toluene	ug/kg	110 U	110 U	210 U
trans-1,2-Dichloroethene	ug/kg	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--
Trichloroethene	ug/kg	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--
Vinyl chloride	ug/kg	--	--	--
Xylenes (total)	ug/kg	160 U	160 U	310 U
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	8.9 J	3.5 J	13 J
Acenaphthene	ug/kg	21 J	350 U	35 J
Acenaphthylene	ug/kg	360 U	350 U	360 U
Anthracene	ug/kg	38 J	3.1 J	68 J
Benzo(a)anthracene	ug/kg	180 J	18 J	310 J
Benzo(a)pyrene	ug/kg	140 J	11 J	210 J
Benzo(b)fluoranthene	ug/kg	280 J	32 J	390 J
Benzo(g,h,i)perylene	ug/kg	99 J	11 J	150 J
Benzo(k)fluoranthene	ug/kg	140 J	20 J	220 J
Chrysene	ug/kg	180 J	18 J	270 J
Dibenz(a,h)anthracene	ug/kg	37 J	350 U	51 J
Fluoranthene	ug/kg	350 J	49 J	480
Fluorene	ug/kg	11 J	350 U	24 J
Indeno(1,2,3-cd)pyrene	ug/kg	83 J	14 J	120 J
Naphthalene	ug/kg	4.5 J	3.5 J	8.2 J

Table 3.12.2

Soil Sample Analytical Results - AOI 8.2 – Former Gasoline and Diesel USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB172-12**	**SB172-12**	**SB172-12**
Sample Identification		**S-17360-021012-EM-004**	**S-17360-021012-EM-005**	**S-17360-021012-EM-006**
Sample Date		**2/10/2012**	**2/10/2012**	**2/10/2012**
Sample Type				
Sample Depth		**(9-11) ft BGS**	**(11-13) ft BGS**	**(13-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.2**	**AOI 8.2**	**AOI 8.2**
Phenanthrene	ug/kg	240 J	25 J	350 J
Pyrene	ug/kg	880 J	31 J	660 J
Total solids	%	93	95	93
Total Petroleum Hydrocarbons (TPH)				
Total Petroleum Hydrocarbons (C10-C20)	ug/kg	23000	4300 J	34000

Table 3.12.3

Soil Sample Analytical Results - AOI 8.3 – Former Heating Oil and Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB57-11	SB57-11	SB58-11	SB58-11
Sample Identification		SO-17360-030211-DR-151	SO-17360-030211-DR-152	SO-17360-030211-DR-149	SO-17360-030211-DR-150
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16.5-18.5) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.3	AOI 8.3	AOI 8.3	AOI 8.3
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	43 U	41 U	41 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	43 U	41 U	41 U
1,1,2-Trichloroethane	ug/kg	44 U	43 U	41 U	41 U
1,1-Dichloroethane	ug/kg	44 U	43 U	41 U	41 U
1,1-Dichloroethene	ug/kg	44 U	43 U	41 U	41 U
1,2,4-Trichlorobenzene	ug/kg	220 U	210 U	210 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	210 U	210 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	210 U	210 U	200 U
1,2-Dichlorobenzene	ug/kg	89 U	85 U	82 U	82 U
1,2-Dichloroethane	ug/kg	44 U	43 U	41 U	41 U
1,2-Dichloropropane	ug/kg	44 U	43 U	41 U	41 U
1,3-Dichlorobenzene	ug/kg	89 U	85 U	82 U	82 U
1,4-Dichlorobenzene	ug/kg	89 U	85 U	82 U	82 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	640 U	620 U	610 U
2-Hexanone	ug/kg	2200 U	2100 U	2100 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2100 U	2100 U	2000 U
Acetone	ug/kg	660 U	640 U	620 U	610 U
Benzene	ug/kg	44 U	43 U	41 U	41 U
Bromodichloromethane	ug/kg	89 U	85 U	82 U	82 U
Bromoform	ug/kg	89 U	85 U	82 U	82 U
Bromomethane (Methyl bromide)	ug/kg	220 U	210 U	210 U	200 U
Carbon disulfide	ug/kg	220 U	210 U	210 U	200 U
Carbon tetrachloride	ug/kg	44 U	43 U	41 U	41 U
Chlorobenzene	ug/kg	44 U	43 U	41 U	41 U
Chloroethane	ug/kg	220 U	210 U	210 U	200 U
Chloroform (Trichloromethane)	ug/kg	44 U	43 U	41 U	41 U
Chloromethane (Methyl chloride)	ug/kg	220 U	210 U	210 U	200 U
cis-1,2-Dichloroethene	ug/kg	44 U	43 U	41 U	41 U
cis-1,3-Dichloropropene	ug/kg	44 U	43 U	41 U	41 U
Cyclohexane	ug/kg	1100 U	1000 U	990 U	980 U
Dibromochloromethane	ug/kg	44 U	43 U	41 U	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	89 U	85 U	82 U	82 U
Ethylbenzene	ug/kg	44 U	43 U	41 U	41 U

Soil Sample Analytical Results - AOI 8.3 – Former Heating Oil and Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB57-11	SB57-11	SB58-11	SB58-11
Sample Identification		SO-17360-030211-DR-151	SO-17360-030211-DR-152	SO-17360-030211-DR-149	SO-17360-030211-DR-150
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16.5-18.5) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.3	AOI 8.3	AOI 8.3	AOI 8.3
Isopropyl benzene	ug/kg	220 U	210 U	210 U	200 U
Methyl acetate	ug/kg	1100 U	1000 U	990 U	980 U
Methyl cyclohexane	ug/kg	1100 U	1000 U	990 U	980 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	210 U	210 U	200 U
Methylene chloride	ug/kg	220 U	210 U	210 U	200 U
Styrene	ug/kg	44 U	43 U	41 U	41 U
Tetrachloroethene	ug/kg	44 U	43 U	41 U	41 U
Toluene	ug/kg	89 U	85 U	82 U	82 U
trans-1,2-Dichloroethene	ug/kg	44 U	43 U	41 U	41 U
trans-1,3-Dichloropropene	ug/kg	44 U	43 U	41 U	41 U
Trichloroethene	ug/kg	44 U	43 U	41 U	41 U
Trichlorofluoromethane (CFC-11)	ug/kg	89 U	85 U	82 U	82 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	210 U	210 U	200 U
Vinyl chloride	ug/kg	35 U	34 U	33 U	33 U
Xylenes (total)	ug/kg	10 J	130 U	120 U	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	700 U	280 U	680 U	280 U
Acenaphthene	ug/kg	18 J	280 U	680 U	280 U
Acenaphthylene	ug/kg	40 J	280 U	680 U	280 U
Anthracene	ug/kg	44 J	9.0 J	680 U	280 U
Benzo(a)anthracene	ug/kg	170 J	21 J	80 J	23 J
Benzo(a)pyrene	ug/kg	190 J	15 J	79 J	51 J
Benzo(b)fluoranthene	ug/kg	240 J	19 J	110 J	70 J
Benzo(g,h,i)perylene	ug/kg	280 J	9.8 J	120 J	40 J
Benzo(k)fluoranthene	ug/kg	140 J	9.3 J	38 J	39 J
Chrysene	ug/kg	190 J	18 J	80 J	33 J
Dibenz(a,h)anthracene	ug/kg	39 J	280 U	680 U	280 U
Fluoranthene	ug/kg	320 J	41 J	130 J	20 J
Fluorene	ug/kg	700 U	280 U	680 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	180 J	8.2 J	78 J	33 J
Naphthalene	ug/kg	700 U	280 U	680 U	280 U
Phenanthrene	ug/kg	130 J	38 J	55 J	7.5 J
Pyrene	ug/kg	270 J	30 J	110 J	19 J

Table 3.12.3

Soil Sample Analytical Results - AOI 8.3 – Former Heating Oil and Oil USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB57-11	SB57-11	SB58-11	SB58-11
Sample Identification		SO-17360-030211-DR-151	SO-17360-030211-DR-152	SO-17360-030211-DR-149	SO-17360-030211-DR-150
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16.5-18.5) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.3	AOI 8.3	AOI 8.3	AOI 8.3
Metals					
Antimony	ug/kg	170 UJ	60 J	160 UJ	170 UJ
Arsenic	ug/kg	1700 J	**7600 J[bcd]**	1200 J	2000 J
Barium	ug/kg	12500	23100	8800	9000
Beryllium	ug/kg	170 U	170 U	160 U	170 U
Cadmium	ug/kg	85 U	41 J	82 U	84 U
Chromium	ug/kg	4600	4500	4900	4500
Cobalt	ug/kg	2000	4000	1700	2000
Copper	ug/kg	5900	12700	3900	5200
Lead	ug/kg	41400	5700	4000	4100
Manganese	ug/kg	132000 J	**702000 J[bcd]**	108000 J	125000 J
Mercury	ug/kg	43 U	43 U	41 U	42 U
Nickel	ug/kg	4300	8900	3900	4700
Selenium	ug/kg	120 J	120 J	160 UJ	200 J
Silver	ug/kg	85 U	86 U	82 U	84 U
Thallium	ug/kg	85 U	160	82 U	84 U
Vanadium	ug/kg	6800	13600	5500	6900
Zinc	ug/kg	12600	28800	9100	9500
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	280 U	270 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	280 U	270 U	280 U
Total PCBs	ug/kg	0	0	0	0

Table 3.12.4

Soil Sample Analytical Results - AOI 8.4 – Former 5,000 Gallon and 8,000 Gallon Gasoline USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB190-12**	**SB190-12**
Sample Identification		**S-17360-110112-DD-196**	**S-17360-110112-DD-197**
Sample Date		**11/1/2012**	**11/1/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.4**	**AOI 8.4**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	52 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	52 U	52 U
1,1,2-Trichloroethane	ug/kg	52 U	52 U
1,1-Dichloroethane	ug/kg	52 U	52 U
1,1-Dichloroethene	ug/kg	52 U	52 U
1,2,4-Trichlorobenzene	ug/kg	52 U	52 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	52 U	52 U
1,2-Dichlorobenzene	ug/kg	52 U	52 U
1,2-Dichloroethane	ug/kg	52 U	52 U
1,2-Dichloropropane	ug/kg	52 U	52 U
1,3-Dichlorobenzene	ug/kg	52 U	52 U
1,4-Dichlorobenzene	ug/kg	52 U	52 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	780 U	780 U
2-Hexanone	ug/kg	2600 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2600 U	2600 U
Acetone	ug/kg	780 U	780 U
Benzene	ug/kg	52 U	52 U
Bromodichloromethane	ug/kg	52 U	52 U
Bromoform	ug/kg	52 U	52 U
Bromomethane (Methyl bromide)	ug/kg	52 U	52 U
Carbon disulfide	ug/kg	260 U	260 U
Carbon tetrachloride	ug/kg	52 U	52 U
Chlorobenzene	ug/kg	52 U	52 U
Chloroethane	ug/kg	52 U	52 U
Chloroform (Trichloromethane)	ug/kg	52 U	52 U
Chloromethane (Methyl chloride)	ug/kg	52 U	52 U
cis-1,2-Dichloroethene	ug/kg	52 U	52 U
cis-1,3-Dichloropropene	ug/kg	52 U	52 U
Cyclohexane	ug/kg	260 U	260 U
Dibromochloromethane	ug/kg	52 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	52 U	52 U
Ethylbenzene	ug/kg	52 U	52 U

Table 3.12.4

Soil Sample Analytical Results - AOI 8.4 – Former 5,000 Gallon and 8,000 Gallon Gasoline USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB190-12**	**SB190-12**
Sample Identification		**S-17360-110112-DD-196**	**S-17360-110112-DD-197**
Sample Date		**11/1/2012**	**11/1/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.4**	**AOI 8.4**
Isopropyl benzene	ug/kg	52 U	52 U
Methyl acetate	ug/kg	260 UJ	260 UJ
Methyl cyclohexane	ug/kg	260 U	260 U
Methyl tert butyl ether (MTBE)	ug/kg	52 U	52 U
Methylene chloride	ug/kg	100 U	130 U
Styrene	ug/kg	52 U	52 U
Tetrachloroethene	ug/kg	52 U	52 U
Toluene	ug/kg	52 U	52 U
trans-1,2-Dichloroethene	ug/kg	52 U	52 U
trans-1,3-Dichloropropene	ug/kg	52 U	52 U
Trichloroethene	ug/kg	52 U	52 U
Trichlorofluoromethane (CFC-11)	ug/kg	52 U	22 J
Trifluorotrichloroethane (Freon 113)	ug/kg	52 U	52 U
Vinyl chloride	ug/kg	42 U	42 U
Xylenes (total)	ug/kg	160 U	160 U
Semi-Volatile Organic Compounds (SVOCs)			
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	17 U	17 U
2,4,5-Trichlorophenol	ug/kg	17 U	17 U
2,4,6-Trichlorophenol	ug/kg	17 U	17 U
2,4-Dichlorophenol	ug/kg	35 U	35 U
2,4-Dimethylphenol	ug/kg	170 U	170 U
2,4-Dinitrophenol	ug/kg	170 U	170 U
2,4-Dinitrotoluene	ug/kg	35 U	35 U
2,6-Dinitrotoluene	ug/kg	17 U	17 U
2-Chloronaphthalene	ug/kg	17 U	17 U
2-Chlorophenol	ug/kg	17 U	17 U
2-Methylnaphthalene	ug/kg	6.6 J	17 U
2-Methylphenol	ug/kg	17 U	17 U
2-Nitroaniline	ug/kg	17 U	17 U
2-Nitrophenol	ug/kg	17 U	17 U
3,3'-Dichlorobenzidine	ug/kg	870 U	870 U
3-Nitroaniline	ug/kg	35 U	35 U
4,6-Dinitro-2-methylphenol	ug/kg	170 U	170 U

Table 3.12.4

Soil Sample Analytical Results - AOI 8.4 – Former 5,000 Gallon and 8,000 Gallon Gasoline USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB190-12**	**SB190-12**
Sample Identification		**S-17360-110112-DD-196**	**S-17360-110112-DD-197**
Sample Date		**11/1/2012**	**11/1/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.4**	**AOI 8.4**
4-Bromophenyl phenyl ether	ug/kg	17 U	17 U
4-Chloro-3-methylphenol	ug/kg	17 U	17 U
4-Chloroaniline	ug/kg	70 U	70 U
4-Chlorophenyl phenyl ether	ug/kg	17 U	17 U
4-Methylphenol	ug/kg	17 U	17 U
4-Nitroaniline	ug/kg	35 U	35 U
4-Nitrophenol	ug/kg	700 U	700 U
Acenaphthene	ug/kg	10 J	17 U
Acenaphthylene	ug/kg	4 J	17 U
Acetophenone	ug/kg	17 U	17 U
Anthracene	ug/kg	28	2.9 J
Atrazine	ug/kg	17 U	17 U
Benzaldehyde	ug/kg	R	R
Benzo(a)anthracene	ug/kg	150	19
Benzo(a)pyrene	ug/kg	170	20
Benzo(b)fluoranthene	ug/kg	230	27
Benzo(g,h,i)perylene	ug/kg	80	17 J
Benzo(k)fluoranthene	ug/kg	120	12 J
Biphenyl (1,1-Biphenyl)	ug/kg	17 U	17 U
bis(2-Chloroethoxy)methane	ug/kg	17 U	17 U
bis(2-Chloroethyl)ether	ug/kg	17 U	17 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	35 U	35 U
Butyl benzylphthalate (BBP)	ug/kg	35 U	35 U
Caprolactam	ug/kg	70 U	70 U
Carbazole	ug/kg	170 U	170 U
Chrysene	ug/kg	170	22
Dibenz(a,h)anthracene	ug/kg	29 J	4 J
Dibenzofuran	ug/kg	4.7 J	17 U
Diethyl phthalate	ug/kg	17 U	17 U
Dimethyl phthalate	ug/kg	17 U	17 U
Di-n-butylphthalate (DBP)	ug/kg	70 U	70 U
Di-n-octyl phthalate (DnOP)	ug/kg	17 U	17 U
Fluoranthene	ug/kg	190	26
Fluorene	ug/kg	11 J	35 U
Hexachlorobenzene	ug/kg	17 U	17 U

Table 3.12.4

Soil Sample Analytical Results - AOI 8.4 – Former 5,000 Gallon and 8,000 Gallon Gasoline USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB190-12**	**SB190-12**
Sample Identification		**S-17360-110112-DD-196**	**S-17360-110112-DD-197**
Sample Date		**11/1/2012**	**11/1/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.4**	**AOI 8.4**
Hexachlorobutadiene	ug/kg	17 U	17 U
Hexachlorocyclopentadiene	ug/kg	17 U	17 U
Hexachloroethane	ug/kg	17 U	17 U
Indeno(1,2,3-cd)pyrene	ug/kg	76	13 J
Isophorone	ug/kg	17 U	17 U
Naphthalene	ug/kg	6.6 J	1.1 J
Nitrobenzene	ug/kg	17 U	17 U
N-Nitrosodi-n-propylamine	ug/kg	17 U	17 U
N-Nitrosodiphenylamine	ug/kg	17 U	17 U
Pentachlorophenol	ug/kg	170 U	170 U
Phenanthrene	ug/kg	130	11 J
Phenol	ug/kg	170 U	170 U
Pyrene	ug/kg	290	28
Total solids	%	96	96
Metals			
Antimony	ug/kg	280	83 J
Arsenic	ug/kg	1800	1400
Barium	ug/kg	19000	6400
Beryllium	ug/kg	140 J	78 J
Cadmium	ug/kg	120	39 J
Chromium	ug/kg	6800	7400
Cobalt	ug/kg	1700	1800
Copper	ug/kg	20000	5200
Iron	ug/kg	5300000	4400000
Lead	ug/kg	17000	3100
Manganese	ug/kg	140000	120000
Mercury	ug/kg	8.3 J	50 U
Molybdenum	ug/kg	1000	600 J
Nickel	ug/kg	5800	5700
Selenium	ug/kg	130	84 J
Silver	ug/kg	36 J	21 J
Thallium	ug/kg	40 J	39 J
Vanadium	ug/kg	7600	7300

Table 3.12.4

Soil Sample Analytical Results - AOI 8.4 – Former 5,000 Gallon and 8,000 Gallon Gasoline USTs
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB190-12**	**SB190-12**
Sample Identification		**S-17360-110112-DD-196**	**S-17360-110112-DD-197**
Sample Date		**11/1/2012**	**11/1/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.4**	**AOI 8.4**
Zinc	ug/kg	25000	11000
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	340 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	8.5 J	350 U
Total PCBs	ug/kg	8.5 J	0

Table 3.12.5

Soil Sample Analytical Results - AOI 8.5 – Former 1,000 Gallon Gasoline UST No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB61-11	SB61-11
Sample Identification		SO-17360-022811-DR-134	SO-17360-022811-DR-135
Sample Date		2/28/2011	2/28/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	excavated	Unexcavated
AOI		AOI 8.5	AOI 8.5
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	56 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	56 U	47 U
1,1,2-Trichloroethane	ug/kg	56 U	47 U
1,1-Dichloroethane	ug/kg	56 U	47 U
1,1-Dichloroethene	ug/kg	56 U	47 U
1,2,4-Trichlorobenzene	ug/kg	280 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	280 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	280 U	230 U
1,2-Dichlorobenzene	ug/kg	110 U	94 U
1,2-Dichloroethane	ug/kg	56 U	47 U
1,2-Dichloropropane	ug/kg	56 U	47 U
1,3-Dichlorobenzene	ug/kg	110 U	94 U
1,4-Dichlorobenzene	ug/kg	110 U	94 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	840 U	700 U
2-Hexanone	ug/kg	2800 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2800 U	2300 U
Acetone	ug/kg	840 U	700 U
Benzene	ug/kg	56 U	47 U
Bromodichloromethane	ug/kg	110 U	94 U
Bromoform	ug/kg	110 U	94 U
Bromomethane (Methyl bromide)	ug/kg	280 U	230 U
Carbon disulfide	ug/kg	280 U	230 U
Carbon tetrachloride	ug/kg	56 U	47 U
Chlorobenzene	ug/kg	56 U	47 U
Chloroethane	ug/kg	280 U	230 U
Chloroform (Trichloromethane)	ug/kg	56 U	47 U
Chloromethane (Methyl chloride)	ug/kg	280 U	230 U
cis-1,2-Dichloroethene	ug/kg	56 U	47 U
cis-1,3-Dichloropropene	ug/kg	56 U	47 U
Cyclohexane	ug/kg	1300 U	1100 U
Dibromochloromethane	ug/kg	56 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	110 U	94 U
Ethylbenzene	ug/kg	56 U	47 U

Soil Sample Analytical Results - AOI 8.5 – Former 1,000 Gallon Gasoline UST No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB61-11**	**SB61-11**
Sample Identification		**SO-17360-022811-DR-134**	**SO-17360-022811-DR-135**
Sample Date		**2/28/2011**	**2/28/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**excavated**	**Unexcavated**
AOI		**AOI 8.5**	**AOI 8.5**
Isopropyl benzene	ug/kg	280 U	230 U
Methyl acetate	ug/kg	1300 U	1100 U
Methyl cyclohexane	ug/kg	1300 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	280 U	230 U
Methylene chloride	ug/kg	280 U	230 U
Styrene	ug/kg	56 U	47 U
Tetrachloroethene	ug/kg	56 U	47 U
Toluene	ug/kg	110 U	94 U
trans-1,2-Dichloroethene	ug/kg	56 U	47 U
trans-1,3-Dichloropropene	ug/kg	56 U	47 U
Trichloroethene	ug/kg	56 U	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	110 U	94 U
Trifluorotrichloroethane (Freon 113)	ug/kg	280 U	230 U
Vinyl chloride	ug/kg	45 U	37 U
Xylenes (total)	ug/kg	170 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	2900 U	270 U
Acenaphthene	ug/kg	2900 U	270 U
Acenaphthylene	ug/kg	2900 U	270 U
Anthracene	ug/kg	2900 U	270 U
Benzo(a)anthracene	ug/kg	110 J	270 U
Benzo(a)pyrene	ug/kg	120 J	270 U
Benzo(b)fluoranthene	ug/kg	210 J	270 U
Benzo(g,h,i)perylene	ug/kg	180 J	270 U
Benzo(k)fluoranthene	ug/kg	120 J	270 U
Chrysene	ug/kg	140 J	270 U
Dibenz(a,h)anthracene	ug/kg	2900 U	270 U
Fluoranthene	ug/kg	140 J	270 U
Fluorene	ug/kg	2900 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	110 J	270 U
Naphthalene	ug/kg	2900 U	270 U
Phenanthrene	ug/kg	2900 U	270 U
Pyrene	ug/kg	110 J	270 U

Table 3.12.5

Soil Sample Analytical Results - AOI 8.5 – Former 1,000 Gallon Gasoline UST No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB61-11**	**SB61-11**
Sample Identification		**SO-17360-022811-DR-134**	**SO-17360-022811-DR-135**
Sample Date		**2/28/2011**	**2/28/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**excavated**	**Unexcavated**
AOI		**AOI 8.5**	**AOI 8.5**
Metals			
Antimony	ug/kg	47 J	170 UJ
Arsenic	ug/kg	1300	2800
Barium	ug/kg	36500	5000
Beryllium	ug/kg	180 U	170 U
Cadmium	ug/kg	89 U	83 U
Chromium	ug/kg	5700	2800
Cobalt	ug/kg	2500	1900
Copper	ug/kg	4200	5500
Lead	ug/kg	16600	4100
Manganese	ug/kg	222000 J	103000 J
Mercury	ug/kg	44 U	41 U
Nickel	ug/kg	4500	3900
Selenium	ug/kg	150 J	170 UJ
Silver	ug/kg	89 U	83 U
Thallium	ug/kg	89 U	83 U
Vanadium	ug/kg	9000	5700
Zinc	ug/kg	24100	13200
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	2900 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	2900 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	2900 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	2900 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	2900 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	**4400[o]**	270 U
Aroclor-1260 (PCB-1260)	ug/kg	2900 U	270 U
Total PCBs	ug/kg	**4400[o]**	0

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11	SB77-11	SB133-11	SB133-11	SB134-11
Sample Identification		SO-17360-022211-DR-113	SO-17360-022211-DR-114	S-17360-092611-EM-005	S-17360-092611-EM-006	S-17360-092611-EM-003
Sample Date		2/22/2011	2/22/2011	9/26/2011	9/26/2011	9/26/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(18-20) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,1,2-Trichloroethane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,1-Dichloroethane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,1-Dichloroethene	ug/kg	42 U	43 U	42 U	41 U	45 U
1,2,4-Trichlorobenzene	ug/kg	210 U	220 U	210 U	210 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	220 U	210 U	210 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	220 U	210 U	210 U	220 U
1,2-Dichlorobenzene	ug/kg	84 U	87 U	83 U	83 U	90 U
1,2-Dichloroethane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,2-Dichloropropane	ug/kg	42 U	43 U	42 U	41 U	45 U
1,3-Dichlorobenzene	ug/kg	84 U	87 U	83 U	83 U	90 U
1,4-Dichlorobenzene	ug/kg	84 U	87 U	83 U	83 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U	650 U	47 J	R	R
2-Hexanone	ug/kg	2100 U	2200 U	2100 UJ	2100 UJ	2200 UJ
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2200 U	2100 UJ	2100 UJ	2200 UJ
Acetone	ug/kg	630 U	650 U	R	R	R
Benzene	ug/kg	42 U	43 U	42 U	41 U	45 U
Bromodichloromethane	ug/kg	84 U	87 U	83 U	83 U	90 U
Bromoform	ug/kg	84 U	87 U	83 U	83 U	90 U
Bromomethane (Methyl bromide)	ug/kg	210 UJ	220 UJ	210 U	210 U	220 U
Carbon disulfide	ug/kg	210 U	220 U	210 U	210 U	220 U
Carbon tetrachloride	ug/kg	42 U	43 U	42 U	41 U	45 U
Chlorobenzene	ug/kg	42 U	43 U	42 U	41 U	45 U
Chloroethane	ug/kg	210 U	220 U	210 U	210 U	220 U
Chloroform (Trichloromethane)	ug/kg	42 U	43 U	42 U	41 U	45 U
Chloromethane (Methyl chloride)	ug/kg	210 UJ	220 UJ	210 U	210 U	220 U
cis-1,2-Dichloroethene	ug/kg	42 U	43 U	42 U	41 U	45 U
cis-1,3-Dichloropropene	ug/kg	42 U	43 U	42 U	41 U	45 U
Cyclohexane	ug/kg	1000 U	1000 U	1000 U	990 U	1100 U
Dibromochloromethane	ug/kg	42 U	43 U	42 U	41 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	84 U	87 U	83 UJ	83 UJ	90 UJ
Ethylbenzene	ug/kg	8.4 J	43 U	42 U	41 U	45 U

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11	SB77-11	SB133-11	SB133-11	SB134-11
Sample Identification		SO-17360-022211-DR-113	SO-17360-022211-DR-114	S-17360-092611-EM-005	S-17360-092611-EM-006	S-17360-092611-EM-003
Sample Date		2/22/2011	2/22/2011	9/26/2011	9/26/2011	9/26/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(18-20) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Isopropyl benzene	ug/kg	210 U	220 U	210 U	210 U	220 U
Methyl acetate	ug/kg	72 J	1000 U	1000 U	990 U	1100 U
Methyl cyclohexane	ug/kg	1000 U	1000 U	1000 U	990 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	220 U	210 U	210 U	220 U
Methylene chloride	ug/kg	210 U	220 U	210 U	210 U	220 U
Styrene	ug/kg	42 U	43 U	42 U	41 U	45 U
Tetrachloroethene	ug/kg	42 U	43 U	42 U	41 U	45 U
Toluene	ug/kg	27 J	87 U	83 U	83 U	90 U
trans-1,2-Dichloroethene	ug/kg	42 U	43 U	42 U	41 U	45 U
trans-1,3-Dichloropropene	ug/kg	42 U	43 U	42 U	41 U	45 U
Trichloroethene	ug/kg	15 J	43 U	42 U	41 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	84 U	87 U	83 U	83 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	220 U	210 U	210 U	220 U
Vinyl chloride	ug/kg	34 U	35 U	33 U	33 U	36 U
Xylenes (total)	ug/kg	56 J	130 U	120 U	120 U	130 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	**7500 J[d]**	270 U	280 U	270 U	40 J
Acenaphthene	ug/kg	**31000 J[d]**	270 U	280 U	270 U	67 J
Acenaphthylene	ug/kg	55000 U	270 U	280 U	270 U	1400 U
Anthracene	ug/kg	**47000 J[bc]**	270 U	11 J	270 U	160 J
Benzo(a)anthracene	ug/kg	**65000[o]**	270 U	54 J	270 U	600 J
Benzo(a)pyrene	ug/kg	**58000[op]**	270 U	46 J	270 U	450 J
Benzo(b)fluoranthene	ug/kg	**77000[o]**	270 U	60 J	270 U	620 J
Benzo(g,h,i)perylene	ug/kg	32000 J	270 U	30 J	270 U	290 J
Benzo(k)fluoranthene	ug/kg	36000 J	270 U	29 J	270 U	370 J
Chrysene	ug/kg	54000 J	270 U	63 J	270 U	630 J
Dibenz(a,h)anthracene	ug/kg	55000 U	270 U	280 U	270 U	1400 U
Fluoranthene	ug/kg	**160000[d]**	13 J	120 J	270 U	1200 J
Fluorene	ug/kg	**22000 J[d]**	270 U	5.2 J	270 U	79 J
Indeno(1,2,3-cd)pyrene	ug/kg	**28000 J[o]**	270 U	26 J	270 U	230 J
Naphthalene	ug/kg	**31000 J[d]**	270 U	4.1 J	270 U	31 J

Table 3.12.6

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11	SB77-11	SB133-11	SB133-11	SB134-11
Sample Identification		SO-17360-022211-DR-113	SO-17360-022211-DR-114	S-17360-092611-EM-005	S-17360-092611-EM-006	S-17360-092611-EM-003
Sample Date		2/22/2011	2/22/2011	9/26/2011	9/26/2011	9/26/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(18-20) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Phenanthrene	ug/kg	**150000**[bd]	12 J	70 J	270 U	980 J
Pyrene	ug/kg	110000	10 J	88 J	270 U	930 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	30 J	160 UJ	150 UJ	170 UJ	160 UJ
Arsenic	ug/kg	1600	3700	1400	1400	1000
Barium	ug/kg	17100	5500	16000	4200	20000
Beryllium	ug/kg	170 U	160 U	170	72 J	150 J
Cadmium	ug/kg	83 U	82 U	76 U	83 U	80 U
Chromium	ug/kg	6700	5000	5000	3200	4200
Cobalt	ug/kg	2500	2400	2100	1600	1700
Copper	ug/kg	5900	4100	2800	3800	3300
Lead	ug/kg	8700	1700	3800	1400	4900
Manganese	ug/kg	153000	111000	110000	110000	110000
Mercury	ug/kg	41 U	41 U	40 U	37 U	40 U
Nickel	ug/kg	6400	4800	4300	3200	3600
Selenium	ug/kg	250 J	270 J	170 J	130 J	170 J
Silver	ug/kg	83 U	82 U	76 U	83 U	80 U
Sodium	ug/kg	--	--	76000 U	100000	80000 U
Thallium	ug/kg	83 U	82 U	83 U	83 U	220 U
Vanadium	ug/kg	7900	6600	8900	4900	7300
Zinc	ug/kg	12400	9400	10000	6300	9700
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	34 U	34 U	35 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	34 U	34 U	35 U
Total PCBs	ug/kg	0	0	0	0	0

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB134-11	SB135-11	SB135-11	SB177-12	SB177-12
Sample Identification		S-17360-092611-EM-004	S-17360-092611-EM-007	S-17360-092611-EM-008	S-17360-042412-EM-047	S-17360-042412-EM-048
Sample Date		9/26/2011	9/26/2011	9/26/2011	4/24/2012	4/24/2012
Sample Type						
Sample Depth		(17-19) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	42 U	43 U	39 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	42 U	43 U	39 U	--	--
1,1,2-Trichloroethane	ug/kg	42 U	43 U	39 U	--	--
1,1-Dichloroethane	ug/kg	42 U	43 U	39 U	--	--
1,1-Dichloroethene	ug/kg	42 U	43 U	39 U	--	--
1,2,4-Trichlorobenzene	ug/kg	210 U	210 U	200 U	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	210 U	200 U	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	210 U	200 U	--	--
1,2-Dichlorobenzene	ug/kg	84 U	86 U	78 U	--	--
1,2-Dichloroethane	ug/kg	42 U	43 U	39 U	--	--
1,2-Dichloropropane	ug/kg	42 U	43 U	39 U	--	--
1,3-Dichlorobenzene	ug/kg	84 U	86 U	78 U	--	--
1,4-Dichlorobenzene	ug/kg	84 U	86 U	78 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	R	49 J	R	--	--
2-Hexanone	ug/kg	2100 UJ	2100 UJ	2000 UJ	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 UJ	2100 UJ	2000 UJ	--	--
Acetone	ug/kg	R	R	R	--	--
Benzene	ug/kg	42 U	43 U	39 U	--	--
Bromodichloromethane	ug/kg	84 U	86 U	78 U	--	--
Bromoform	ug/kg	84 U	86 U	78 U	--	--
Bromomethane (Methyl bromide)	ug/kg	210 U	210 U	200 U	--	--
Carbon disulfide	ug/kg	210 U	210 U	200 U	--	--
Carbon tetrachloride	ug/kg	42 U	43 U	39 U	--	--
Chlorobenzene	ug/kg	42 U	43 U	39 U	--	--
Chloroethane	ug/kg	210 U	210 U	200 U	--	--
Chloroform (Trichloromethane)	ug/kg	42 U	43 U	39 U	--	--
Chloromethane (Methyl chloride)	ug/kg	210 U	210 U	200 U	--	--
cis-1,2-Dichloroethene	ug/kg	42 U	43 U	39 U	--	--
cis-1,3-Dichloropropene	ug/kg	42 U	43 U	39 U	--	--
Cyclohexane	ug/kg	1000 U	1000 U	940 U	--	--
Dibromochloromethane	ug/kg	42 U	43 U	39 U	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	84 UJ	86 UJ	78 UJ	--	--
Ethylbenzene	ug/kg	42 U	43 U	39 U	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB134-11	SB135-11	SB135-11	SB177-12	SB177-12
Sample Identification		S-17360-092611-EM-004	S-17360-092611-EM-007	S-17360-092611-EM-008	S-17360-042412-EM-047	S-17360-042412-EM-048
Sample Date		9/26/2011	9/26/2011	9/26/2011	4/24/2012	4/24/2012
Sample Type						
Sample Depth		(17-19) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Isopropyl benzene	ug/kg	210 U	210 U	200 U	--	--
Methyl acetate	ug/kg	1000 U	1000 U	940 U	--	--
Methyl cyclohexane	ug/kg	1000 U	16 J	940 U	--	--
Methyl tert butyl ether (MTBE)	ug/kg	210 U	210 U	200 U	--	--
Methylene chloride	ug/kg	210 U	210 U	200 U	--	--
Styrene	ug/kg	42 U	43 U	39 U	--	--
Tetrachloroethene	ug/kg	42 U	43 U	39 U	--	--
Toluene	ug/kg	84 U	86 U	78 U	--	--
trans-1,2-Dichloroethene	ug/kg	42 U	43 U	39 U	--	--
trans-1,3-Dichloropropene	ug/kg	42 U	43 U	39 U	--	--
Trichloroethene	ug/kg	42 U	43 U	39 U	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	84 U	86 U	78 U	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	210 U	200 U	--	--
Vinyl chloride	ug/kg	34 U	34 U	31 U	--	--
Xylenes (total)	ug/kg	130 U	130 U	120 U	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	5500 U	270 U	11 J	350 U
Acenaphthene	ug/kg	270 U	5500 U	270 U	110 J	22 J
Acenaphthylene	ug/kg	270 U	5500 U	270 U	3.7 J	350 U
Anthracene	ug/kg	270 U	5500 U	270 U	240 J	47 J
Benzo(a)anthracene	ug/kg	270 U	5500 U	270 U	870	100 J
Benzo(a)pyrene	ug/kg	270 U	5500 U	270 U	560	95 J
Benzo(b)fluoranthene	ug/kg	270 U	5500 U	270 U	1000	150 J
Benzo(g,h,i)perylene	ug/kg	270 U	200 J	270 U	370	51 J
Benzo(k)fluoranthene	ug/kg	270 U	5500 U	270 U	310 J	55 J
Chrysene	ug/kg	270 U	5500 U	270 U	560	90 J
Dibenz(a,h)anthracene	ug/kg	270 U	5500 U	270 U	22 J	4.3 J
Fluoranthene	ug/kg	270 U	83 J	270 U	1300	270 J
Fluorene	ug/kg	270 U	5500 U	270 U	91 J	17 J
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	5500 U	270 U	510	52 J
Naphthalene	ug/kg	6.1 J	5500 U	270 U	21 J	3.2 J

Table 3.12.6

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB134-11	SB135-11	SB135-11	SB177-12	SB177-12
Sample Identification		S-17360-092611-EM-004	S-17360-092611-EM-007	S-17360-092611-EM-008	S-17360-042412-EM-047	S-17360-042412-EM-048
Sample Date		9/26/2011	9/26/2011	9/26/2011	4/24/2012	4/24/2012
Sample Type						
Sample Depth		(17-19) ft BGS	(0.5-2.5) ft BGS	(17-19) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Phenanthrene	ug/kg	270 U	5500 U	270 U	1200	160 J
Pyrene	ug/kg	270 U	76 J	270 U	1100	190 J
Total solids	%	--	--	--	93	93
Metals						
Antimony	ug/kg	130 UJ	140 UJ	140 UJ	--	--
Arsenic	ug/kg	1100	1300	1700	--	--
Barium	ug/kg	3500	18000	5700	--	--
Beryllium	ug/kg	85 J	150	130 J	--	--
Cadmium	ug/kg	64 U	820	68 U	--	--
Chromium	ug/kg	3400	4900	7200	--	--
Cobalt	ug/kg	1600	2100	3000	--	--
Copper	ug/kg	3700	52000	5400	--	--
Lead	ug/kg	1100	6600	2300	--	--
Manganese	ug/kg	130000	89000	150000	--	--
Mercury	ug/kg	38 U	63	33 U	--	--
Nickel	ug/kg	3600	4800	6300	--	--
Selenium	ug/kg	180 J	130 J	130 J	--	--
Silver	ug/kg	64 U	21 J	68 U	--	--
Sodium	ug/kg	72000	71000 U	68000 U	--	--
Thallium	ug/kg	80 U	71 U	68 U	--	--
Vanadium	ug/kg	4700	7600	7700	--	--
Zinc	ug/kg	7200	120000	10000	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1221 (PCB-1221)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1232 (PCB-1232)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1242 (PCB-1242)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1248 (PCB-1248)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1254 (PCB-1254)	ug/kg	34 U	35 U	34 U	--	--
Aroclor-1260 (PCB-1260)	ug/kg	34 U	41	34 U	--	--
Total PCBs	ug/kg	0	41	0	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB178-12	SB178-12	SB178-12	SB179-12	SB179-12
Sample Identification		S-17360-042412-EM-029	S-17360-042412-EM-030	S-17360-042412-EM-031	S-17360-042412-EM-035	S-17360-042412-EM-036
Sample Date		4/24/2012	4/24/2012	4/24/2012	4/24/2012	4/24/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	excavated	excavated	excavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB178-12	SB178-12	SB178-12	SB179-12	SB179-12
Sample Identification		S-17360-042412-EM-029	S-17360-042412-EM-030	S-17360-042412-EM-031	S-17360-042412-EM-035	S-17360-042412-EM-036
Sample Date		4/24/2012	4/24/2012	4/24/2012	4/24/2012	4/24/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	excavated	excavated	excavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	11 J	1800 U	12 J	2.5 J	350 U
Acenaphthene	ug/kg	350 U	42 J	210 J	350 U	350 U
Acenaphthylene	ug/kg	350 U	11 J	12 J	350 U	350 U
Anthracene	ug/kg	5 J	140 J	490 J	350 U	350 U
Benzo(a)anthracene	ug/kg	34 J	900 J	1900	30 J	1.9 J
Benzo(a)pyrene	ug/kg	25 J	650 J	1200 J	17 J	1.9 J
Benzo(b)fluoranthene	ug/kg	49 J	1200 J	1900	37 J	2.2 J
Benzo(g,h,i)perylene	ug/kg	15 J	460 J	640 J	17 J	1.9 J
Benzo(k)fluoranthene	ug/kg	19 J	240 J	680 J	350 U	350 U
Chrysene	ug/kg	29 J	500 J	1200 J	25 J	1.9 J
Dibenz(a,h)anthracene	ug/kg	5.4 J	73 J	110 J	4.3 J	350 U
Fluoranthene	ug/kg	45 J	1200 J	2700	25 J	350 U
Fluorene	ug/kg	350 U	38 J	240 J	350 U	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	15 J	320 J	790 J	14 J	1.9 J
Naphthalene	ug/kg	9.3 J	1800 U	11 J	350 U	350 U

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB178-12	SB178-12	SB178-12	SB179-12	SB179-12
Sample Identification		S-17360-042412-EM-029	S-17360-042412-EM-030	S-17360-042412-EM-031	S-17360-042412-EM-035	S-17360-042412-EM-036
Sample Date		4/24/2012	4/24/2012	4/24/2012	4/24/2012	4/24/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	excavated	excavated	excavated	excavated	excavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Phenanthrene	ug/kg	21 J	580 J	**2400**[d]	11 J	1.1 J
Pyrene	ug/kg	45 J	1100 J	2800	29 J	350 U
Total solids	%	93	92	93	93	94
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Sodium	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB180-12	SB180-12	SB77-11 Excavation, NE sectior	SB77-11 Excavation, NW section
Sample Identification		S-17360-042412-EM-041	S-17360-042412-EM-042	SO-17360-061412-EB-028	SO-17360-061412-EB-029
Sample Date		4/24/2012	4/24/2012	6/14/2012	6/14/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(3-3) ft BGS	(3-3) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB180-12	SB180-12	SB77-11 Excavation, NE sectior	SB77-11 Excavation, NW section
Sample Identification		S-17360-042412-EM-041	S-17360-042412-EM-042	SO-17360-061412-EB-028	SO-17360-061412-EB-029
Sample Date		4/24/2012	4/24/2012	6/14/2012	6/14/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(3-3) ft BGS	(3-3) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	7.1 J	350 U	3400 U	3500 U
Acenaphthene	ug/kg	34 J	350 U	3400 U	3500 U
Acenaphthylene	ug/kg	2.2 J	350 U	3400 U	3500 U
Anthracene	ug/kg	62 J	350 U	3400 U	3500 U
Benzo(a)anthracene	ug/kg	360	2.2 J	46 J	40 J
Benzo(a)pyrene	ug/kg	170 J	2.2 J	43 J	55 J
Benzo(b)fluoranthene	ug/kg	370	2.2 J	50 J	80 J
Benzo(g,h,i)perylene	ug/kg	110 J	350 U	36 J	36 J
Benzo(k)fluoranthene	ug/kg	110 J	350 U	39 J	47 J
Chrysene	ug/kg	210 J	350 U	3400 U	3500 U
Dibenz(a,h)anthracene	ug/kg	22 J	350 U	3400 U	3500 U
Fluoranthene	ug/kg	330 J	2.2 J	79 J	91 J
Fluorene	ug/kg	34 J	350 U	3400 U	3500 U
Indeno(1,2,3-cd)pyrene	ug/kg	86 J	2.2 J	32 J	44 J
Naphthalene	ug/kg	6 J	350 U	3400 U	3500 U

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB180-12	SB180-12	SB77-11 Excavation, NE sectior	SB77-11 Excavation, NW section
Sample Identification		S-17360-042412-EM-041	S-17360-042412-EM-042	SO-17360-061412-EB-028	SO-17360-061412-EB-029
Sample Date		4/24/2012	4/24/2012	6/14/2012	6/14/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(3-3) ft BGS	(3-3) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6	AOI 8.6
Phenanthrene	ug/kg	320 J	2.2 J	50 J	73 J
Pyrene	ug/kg	410	2.2 J	75 J	87 J
Total solids	%	93	94	97	96
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11 Excavation, NW section	SB77-11 Excavation, SE section	SB77-11 Excavation, SW section
Sample Identification		SO-17360-061412-EB-030	SO-17360-061412-EB-032	SO-17360-061412-EB-031
Sample Date		6/14/2012	6/14/2012	6/14/2012
Sample Type		Duplicate		
Sample Depth		(3-3) ft BGS	(3-3) ft BGS	(3-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--
2-Hexanone	ug/kg	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--
Acetone	ug/kg	--	--	--
Benzene	ug/kg	--	--	--
Bromodichloromethane	ug/kg	--	--	--
Bromoform	ug/kg	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--
Carbon disulfide	ug/kg	--	--	--
Carbon tetrachloride	ug/kg	--	--	--
Chlorobenzene	ug/kg	--	--	--
Chloroethane	ug/kg	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--
Cyclohexane	ug/kg	--	--	--
Dibromochloromethane	ug/kg	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--
Ethylbenzene	ug/kg	--	--	--

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11 Excavation, NW section	SB77-11 Excavation, SE section	SB77-11 Excavation, SW section
Sample Identification		SO-17360-061412-EB-030	SO-17360-061412-EB-032	SO-17360-061412-EB-031
Sample Date		6/14/2012	6/14/2012	6/14/2012
Sample Type		Duplicate		
Sample Depth		(3-3) ft BGS	(3-3) ft BGS	(3-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 8.6	AOI 8.6	AOI 8.6
Isopropyl benzene	ug/kg	--	--	--
Methyl acetate	ug/kg	--	--	--
Methyl cyclohexane	ug/kg	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--
Methylene chloride	ug/kg	--	--	--
Styrene	ug/kg	--	--	--
Tetrachloroethene	ug/kg	--	--	--
Toluene	ug/kg	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--
Trichloroethene	ug/kg	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--
Vinyl chloride	ug/kg	--	--	--
Xylenes (total)	ug/kg	--	--	--
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	3500 U	3500 U	18 J
Acenaphthene	ug/kg	3500 U	3500 U	33 J
Acenaphthylene	ug/kg	3500 U	3500 U	3500 U
Anthracene	ug/kg	3500 U	3500 U	55 J
Benzo(a)anthracene	ug/kg	25 J	37 J	120 J
Benzo(a)pyrene	ug/kg	3500 U	73 J	140 J
Benzo(b)fluoranthene	ug/kg	29 J	88 J	210 J
Benzo(g,h,i)perylene	ug/kg	18 J	40 J	62 J
Benzo(k)fluoranthene	ug/kg	3500 U	66 J	99 J
Chrysene	ug/kg	3500 U	3500 U	3500 U
Dibenz(a,h)anthracene	ug/kg	3500 U	3500 U	3500 U
Fluoranthene	ug/kg	22 J	70 J	430 J
Fluorene	ug/kg	3500 U	3500 U	26 J
Indeno(1,2,3-cd)pyrene	ug/kg	3500 U	40 J	110 J
Naphthalene	ug/kg	3500 U	3500 U	3500 U

Soil Sample Analytical Results - AOI 8.6 – Former 1,000 Gallon Gasoline UST No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB77-11 Excavation, NW section	SB77-11 Excavation, SE section	SB77-11 Excavation, SW section
Sample Identification		**SO-17360-061412-EB-030**	**SO-17360-061412-EB-032**	**SO-17360-061412-EB-031**
Sample Date		**6/14/2012**	**6/14/2012**	**6/14/2012**
Sample Type		**Duplicate**		
Sample Depth		**(3-3) ft BGS**	**(3-3) ft BGS**	**(3-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.6**	**AOI 8.6**	**AOI 8.6**
Phenanthrene	ug/kg	33 J	44 J	310 J
Pyrene	ug/kg	25 J	70 J	320 J
Total solids	%	95	94	95
Metals				
Antimony	ug/kg	--	--	--
Arsenic	ug/kg	--	--	--
Barium	ug/kg	--	--	--
Beryllium	ug/kg	--	--	--
Cadmium	ug/kg	--	--	--
Chromium	ug/kg	--	--	--
Cobalt	ug/kg	--	--	--
Copper	ug/kg	--	--	--
Lead	ug/kg	--	--	--
Manganese	ug/kg	--	--	--
Mercury	ug/kg	--	--	--
Nickel	ug/kg	--	--	--
Selenium	ug/kg	--	--	--
Silver	ug/kg	--	--	--
Sodium	ug/kg	--	--	--
Thallium	ug/kg	--	--	--
Vanadium	ug/kg	--	--	--
Zinc	ug/kg	--	--	--
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--
Total PCBs	ug/kg	--	--	--

Table 3.12.7

Soil Sample Analytical Results - AOI 8.7 – Potential UST (near Column O, Row 45)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB60-11**	**SB60-11**
Sample Identification		**SO-17360-022811-DR-136**	**SO-17360-022811-DR-137**
Sample Date		**2/28/2011**	**2/28/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.7**	**AOI 8.7**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	53 U	41 U
1,1,2,2-Tetrachloroethane	ug/kg	53 U	41 U
1,1,2-Trichloroethane	ug/kg	53 U	41 U
1,1-Dichloroethane	ug/kg	53 U	41 U
1,1-Dichloroethene	ug/kg	53 U	41 U
1,2,4-Trichlorobenzene	ug/kg	270 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	270 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	270 U	200 U
1,2-Dichlorobenzene	ug/kg	110 U	81 U
1,2-Dichloroethane	ug/kg	53 U	41 U
1,2-Dichloropropane	ug/kg	53 U	41 U
1,3-Dichlorobenzene	ug/kg	110 U	81 U
1,4-Dichlorobenzene	ug/kg	110 U	81 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	800 U	610 U
2-Hexanone	ug/kg	2700 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2700 U	2000 U
Acetone	ug/kg	800 U	610 U
Benzene	ug/kg	53 U	41 U
Bromodichloromethane	ug/kg	110 U	81 U
Bromoform	ug/kg	110 U	81 U
Bromomethane (Methyl bromide)	ug/kg	270 U	200 U
Carbon disulfide	ug/kg	270 U	200 U
Carbon tetrachloride	ug/kg	53 U	41 U
Chlorobenzene	ug/kg	53 U	41 U
Chloroethane	ug/kg	270 U	200 U
Chloroform (Trichloromethane)	ug/kg	53 U	41 U
Chloromethane (Methyl chloride)	ug/kg	270 U	200 U
cis-1,2-Dichloroethene	ug/kg	53 U	41 U
cis-1,3-Dichloropropene	ug/kg	53 U	41 U
Cyclohexane	ug/kg	1300 U	970 U
Dibromochloromethane	ug/kg	53 U	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	110 U	81 U
Ethylbenzene	ug/kg	53 U	41 U

Soil Sample Analytical Results - AOI 8.7 – Potential UST (near Column O, Row 45)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB60-11	SB60-11
Sample Identification		SO-17360-022811-DR-136	SO-17360-022811-DR-137
Sample Date		2/28/2011	2/28/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 8.7	AOI 8.7
Isopropyl benzene	ug/kg	270 U	200 U
Methyl acetate	ug/kg	84 J	970 U
Methyl cyclohexane	ug/kg	1300 U	970 U
Methyl tert butyl ether (MTBE)	ug/kg	270 U	200 U
Methylene chloride	ug/kg	270 U	200 U
Styrene	ug/kg	53 U	41 U
Tetrachloroethene	ug/kg	53 U	41 U
Toluene	ug/kg	110 U	81 U
trans-1,2-Dichloroethene	ug/kg	53 U	41 U
trans-1,3-Dichloropropene	ug/kg	53 U	41 U
Trichloroethene	ug/kg	53 U	41 U
Trichlorofluoromethane (CFC-11)	ug/kg	110 U	81 U
Trifluorotrichloroethane (Freon 113)	ug/kg	270 U	200 U
Vinyl chloride	ug/kg	43 U	32 U
Xylenes (total)	ug/kg	160 U	120 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	1100 U	280 U
Acenaphthene	ug/kg	1100 U	280 U
Acenaphthylene	ug/kg	1100 U	280 U
Anthracene	ug/kg	1100 U	280 U
Benzo(a)anthracene	ug/kg	110 J	280 U
Benzo(a)pyrene	ug/kg	90 J	280 U
Benzo(b)fluoranthene	ug/kg	150 J	280 U
Benzo(g,h,i)perylene	ug/kg	61 J	280 U
Benzo(k)fluoranthene	ug/kg	38 J	280 U
Chrysene	ug/kg	110 J	280 U
Dibenz(a,h)anthracene	ug/kg	1100 U	280 U
Fluoranthene	ug/kg	170 J	280 U
Fluorene	ug/kg	1100 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	52 J	280 U
Naphthalene	ug/kg	1100 U	280 U
Phenanthrene	ug/kg	130 J	280 U
Pyrene	ug/kg	120 J	280 U

Table 3.12.7

Soil Sample Analytical Results - AOI 8.7 – Potential UST (near Column O, Row 45)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB60-11**	**SB60-11**
Sample Identification		**SO-17360-022811-DR-136**	**SO-17360-022811-DR-137**
Sample Date		**2/28/2011**	**2/28/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 8.7**	**AOI 8.7**
Metals			
Antimony	ug/kg	39 J	170 UJ
Arsenic	ug/kg	1300	2200
Barium	ug/kg	21600	7400
Beryllium	ug/kg	170 U	170 U
Cadmium	ug/kg	84 U	84 U
Chromium	ug/kg	4100	4000
Cobalt	ug/kg	2000	2700
Copper	ug/kg	3800	5800
Lead	ug/kg	7600	2800
Manganese	ug/kg	125000 J	293000 J
Mercury	ug/kg	42 U	42 U
Nickel	ug/kg	3700	5200
Selenium	ug/kg	110 J	120 J
Silver	ug/kg	84 U	84 U
Thallium	ug/kg	84 U	84 U
Vanadium	ug/kg	6700	8600
Zinc	ug/kg	17500	10100
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	280 U
Total PCBs	ug/kg	0	0

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB62-11	SB62-11	SB63-11	SB63-11
Sample Identification		SO-17360-030311-DR-161	SO-17360-030311-DR-162	SO-17360-030311-DR-166	SO-17360-030311-DR-167
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(11-13) ft BGS	(0.5-2.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	46 U	44 U	42 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	44 U	42 U	45 U
1,1,2-Trichloroethane	ug/kg	46 U	44 U	42 U	45 U
1,1-Dichloroethane	ug/kg	46 U	44 U	42 U	45 U
1,1-Dichloroethene	ug/kg	46 U	44 U	42 U	45 U
1,2,4-Trichlorobenzene	ug/kg	230 U	220 U	210 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	220 U	210 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	220 U	210 U	230 U
1,2-Dichlorobenzene	ug/kg	91 U	88 U	84 U	91 U
1,2-Dichloroethane	ug/kg	46 U	44 U	42 U	45 U
1,2-Dichloropropane	ug/kg	46 U	44 U	42 U	45 U
1,3-Dichlorobenzene	ug/kg	91 U	88 U	84 U	91 U
1,4-Dichlorobenzene	ug/kg	91 U	88 U	84 U	91 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	110 J	660 U	630 U	680 U
2-Hexanone	ug/kg	2300 U	2200 U	2100 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2200 U	2100 U	2300 U
Acetone	ug/kg	190 J	660 U	630 U	190 J
Benzene	ug/kg	46 U	44 U	42 U	45 U
Bromodichloromethane	ug/kg	91 U	88 U	84 U	91 U
Bromoform	ug/kg	91 U	88 U	84 U	91 U
Bromomethane (Methyl bromide)	ug/kg	230 U	220 U	210 U	230 U
Carbon disulfide	ug/kg	230 U	220 U	210 U	230 U
Carbon tetrachloride	ug/kg	46 U	44 U	42 U	45 U
Chlorobenzene	ug/kg	46 U	44 U	42 U	45 U
Chloroethane	ug/kg	230 U	220 U	210 U	230 U
Chloroform (Trichloromethane)	ug/kg	46 U	44 U	42 U	45 U
Chloromethane (Methyl chloride)	ug/kg	230 U	220 U	210 U	230 U
cis-1,2-Dichloroethene	ug/kg	46 U	44 U	42 U	45 U
cis-1,3-Dichloropropene	ug/kg	46 U	44 U	42 U	45 U
Cyclohexane	ug/kg	1100 U	1100 U	1000 U	1100 U
Dibromochloromethane	ug/kg	46 U	44 U	42 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	91 U	88 U	84 U	91 U
Ethylbenzene	ug/kg	46 U	44 U	42 U	45 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-030311-DR-161	SO-17360-030311-DR-162	SO-17360-030311-DR-166	SO-17360-030311-DR-167
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(11-13) ft BGS	(0.5-2.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
VOCs (continued)					
Isopropyl benzene	ug/kg	230 U	220 U	210 U	230 U
Methyl acetate	ug/kg	240 J	1100 U	1000 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	220 U	210 U	230 U
Methylene chloride	ug/kg	230 U	220 U	210 U	230 U
Styrene	ug/kg	46 U	44 U	42 U	45 U
Tetrachloroethene	ug/kg	65	44 U	42 U	45 U
Toluene	ug/kg	91 U	88 U	84 U	91 U
trans-1,2-Dichloroethene	ug/kg	46 U	44 U	42 U	45 U
trans-1,3-Dichloropropene	ug/kg	46 U	44 U	42 U	45 U
Trichloroethene	ug/kg	46 U	44 U	42 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	91 U	88 U	84 U	91 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	220 U	210 U	230 U
Vinyl chloride	ug/kg	36 U	35 U	33 U	36 U
Xylenes (total)	ug/kg	140 U	130 U	130 U	140 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	52 J	290 U	300 U	270 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-030311-DR-161	SO-17360-030311-DR-162	SO-17360-030311-DR-166	SO-17360-030311-DR-167
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(11-13) ft BGS	(0.5-2.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	210 J	290 U	300 U	270 U
Acenaphthylene	ug/kg	140 J	290 U	300 U	270 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	660 J	290 U	300 U	270 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	3400	290 U	300 U	270 U
Benzo(a)pyrene	ug/kg	**3700[o]**	290 U	300 U	270 U
Benzo(b)fluoranthene	ug/kg	5600	290 U	300 U	270 U
Benzo(g,h,i)perylene	ug/kg	2900	290 U	300 U	270 U
Benzo(k)fluoranthene	ug/kg	2800	290 U	300 U	270 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	4200	290 U	300 U	270 U
Dibenz(a,h)anthracene	ug/kg	450 J	290 U	300 U	270 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	**10000[d]**	290 U	300 U	270 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Wyoming, Michigan

Sample Identification		SO-17360-030311-DR-161	SO-17360-030311-DR-162	SO-17360-030311-DR-166	SO-17360-030311-DR-167
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(11-13) ft BGS	(0.5-2.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
Fluorene	ug/kg	180 J	290 U	300 U	270 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	2500	290 U	300 U	270 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	1900 U	290 U	300 U	270 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	**4600[d]**	290 U	300 U	270 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	7200	290 U	300 U	270 U
Total solids	%	--	--	--	--
Metals					
Antimony	ug/kg	71 J	180 UJ	180 UJ	170 UJ
Arsenic	ug/kg	1500 J	1700 J	800 J	2300 J
Barium	ug/kg	28800	9700	49200	4100
Beryllium	ug/kg	170 U	180 U	180 U	170 U
Cadmium	ug/kg	170	88 U	90 U	83 U
Chromium	ug/kg	8400	5000	7700	4600
Cobalt	ug/kg	2300	3400	1900	2000
Copper	ug/kg	9200	5800	2400	3300
Iron	ug/kg	--	--	--	--
Lead	ug/kg	25800	2400	2900	2500
Manganese	ug/kg	125000 J	193000 J	251000 J	101000 J
Mercury	ug/kg	43 U	44 U	45 U	42 U
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	6400	4600	3700	3900
Selenium	ug/kg	160 J	180 UJ	110 J	170 UJ

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Wyoming, Michigan

Sample Identification		SO-17360-030311-DR-161	SO-17360-030311-DR-162	SO-17360-030311-DR-166	SO-17360-030311-DR-167
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(11-13) ft BGS	(0.5-2.5) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
Metals (continued)					
Silver	ug/kg	86 U	88 U	90 U	83 U
Thallium	ug/kg	86 U	88 U	90 U	83 U
Vanadium	ug/kg	9600	8700	9700	5900
Zinc	ug/kg	48300	12000	13900	9000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	290 U	300 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	47 J	290 U	300 U	270 U
Total PCBs	ug/kg	47 J	0	0	0

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Sample Location		**SB64-11**	**SB64-11**	**SB65-11**	**SB65-11**
Sample Identification		**SO-17360-030211-DR-159**	**SO-17360-030211-DR-160**	**SO-17360-030311-DR-170**	**SO-17360-030311-DR-171**
Sample Date		**3/2/2011**	**3/2/2011**	**3/3/2011**	**3/3/2011**
Sample Type					
Sample Depth		**(0.5-2.5) ft BGS**	**(12-14) ft BGS**	**(0.5-2.5) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**	**AOI 9**	**AOI 9**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	47 U	41 U	47 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	47 U	41 U	47 U	44 U
1,1,2-Trichloroethane	ug/kg	47 U	41 U	47 U	44 U
1,1-Dichloroethane	ug/kg	47 U	41 U	47 U	44 U
1,1-Dichloroethene	ug/kg	47 U	41 U	47 U	44 U
1,2,4-Trichlorobenzene	ug/kg	230 U	200 U	240 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	200 U	240 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	200 U	240 U	220 U
1,2-Dichlorobenzene	ug/kg	93 U	82 U	95 U	89 U
1,2-Dichloroethane	ug/kg	47 U	41 U	47 U	44 U
1,2-Dichloropropane	ug/kg	47 U	41 U	47 U	44 U
1,3-Dichlorobenzene	ug/kg	93 U	82 U	95 U	89 U
1,4-Dichlorobenzene	ug/kg	93 U	82 U	95 U	89 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	700 U	610 U	710 U	660 U
2-Hexanone	ug/kg	2300 U	2000 U	2400 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2000 U	2400 U	2200 U
Acetone	ug/kg	700 U	170 J	710 U	660 U
Benzene	ug/kg	47 U	41 U	47 U	44 U
Bromodichloromethane	ug/kg	93 U	82 U	95 U	89 U
Bromoform	ug/kg	93 U	82 U	95 U	89 U
Bromomethane (Methyl bromide)	ug/kg	230 U	200 U	240 U	220 U
Carbon disulfide	ug/kg	230 U	200 U	240 U	220 U
Carbon tetrachloride	ug/kg	47 U	41 U	47 U	44 U
Chlorobenzene	ug/kg	47 U	41 U	47 U	44 U
Chloroethane	ug/kg	230 U	200 U	240 U	220 U
Chloroform (Trichloromethane)	ug/kg	47 U	41 U	47 U	44 U
Chloromethane (Methyl chloride)	ug/kg	230 U	200 U	240 U	220 U
cis-1,2-Dichloroethene	ug/kg	47 U	41 U	47 U	44 U
cis-1,3-Dichloropropene	ug/kg	47 U	41 U	47 U	44 U
Cyclohexane	ug/kg	1100 U	980 U	1100 U	1100 U
Dibromochloromethane	ug/kg	47 U	41 U	47 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	93 U	82 U	95 U	89 U
Ethylbenzene	ug/kg	47 U	41 U	47 U	44 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-030211-DR-159	SO-17360-030211-DR-160	SO-17360-030311-DR-170	SO-17360-030311-DR-171
Sample Date		3/2/2011	3/2/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
VOCs (continued)					
Isopropyl benzene	ug/kg	230 U	200 U	240 U	220 U
Methyl acetate	ug/kg	1100 U	980 U	1100 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	980 U	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	200 U	240 U	220 U
Methylene chloride	ug/kg	230 U	200 U	240 U	220 U
Styrene	ug/kg	47 U	41 U	47 U	44 U
Tetrachloroethene	ug/kg	21 J	41 U	47 U	44 U
Toluene	ug/kg	93 U	82 U	95 U	89 U
trans-1,2-Dichloroethene	ug/kg	47 U	41 U	47 U	44 U
trans-1,3-Dichloropropene	ug/kg	47 U	41 U	47 U	44 U
Trichloroethene	ug/kg	47 U	41 U	47 U	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	93 U	82 U	95 U	89 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	200 U	240 U	220 U
Vinyl chloride	ug/kg	37 U	33 U	38 U	35 U
Xylenes (total)	ug/kg	140 U	120 U	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	47 J	270 U	38 J	270 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-030211-DR-159	SO-17360-030211-DR-160	SO-17360-030311-DR-170	SO-17360-030311-DR-171
Sample Date		3/2/2011	3/2/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	12 J	270 U	300 U	270 U
Acenaphthylene	ug/kg	280 U	270 U	300 U	270 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	11 J	270 U	12 J	270 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	29 J	17 J	32 J	270 U
Benzo(a)pyrene	ug/kg	28 J	21 J	20 J	270 U
Benzo(b)fluoranthene	ug/kg	36 J	28 J	40 J	270 U
Benzo(g,h,i)perylene	ug/kg	24 J	26 J	300 U	270 U
Benzo(k)fluoranthene	ug/kg	18 J	16 J	300 U	270 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	34 J	23 J	55 J	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U	300 U	270 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	68 J	39 J	98 J	270 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Wyoming, Michigan

Sample Identification		SO-17360-030211-DR-159	SO-17360-030211-DR-160	SO-17360-030311-DR-170	SO-17360-030311-DR-171
Sample Date		3/2/2011	3/2/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
Fluorene	ug/kg	280 U	270 U	300 U	270 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	18 J	18 J	300 U	270 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	180 J	270 U	15 J	270 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	42 J	22 J	100 J	270 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	55 J	32 J	61 J	270 U
Total solids	%	--	--	--	--
Metals					
Antimony	ug/kg	33 J	110 J	41 J	170 UJ
Arsenic	ug/kg	1400 J	**5900 J[bcd]**	2100 J	1200 J
Barium	ug/kg	13300	13800	48600	4800
Beryllium	ug/kg	170 U	160 U	180 U	170 U
Cadmium	ug/kg	83 U	110	66 J	83 U
Chromium	ug/kg	5600	11700	6800	3800
Cobalt	ug/kg	2600	4600	2600	1600
Copper	ug/kg	5300	20700	6200	3100
Iron	ug/kg	--	--	--	--
Lead	ug/kg	3500	12900	22400	2000
Manganese	ug/kg	138000 J	303000 J	292000 J	94000 J
Mercury	ug/kg	42 U	40 J	45 U	41 U
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	5900	12400	5600	3200
Selenium	ug/kg	150 J	180 J	180 J	170 UJ

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-030211-DR-159	SO-17360-030211-DR-160	SO-17360-030311-DR-170	SO-17360-030311-DR-171
Sample Date		3/2/2011	3/2/2011	3/3/2011	3/3/2011
Sample Type					
Sample Depth		(0.5-2.5) ft BGS	(12-14) ft BGS	(0.5-2.5) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
Metals (continued)					
Silver	ug/kg	83 U	82 U	91 U	83 U
Thallium	ug/kg	83 U	82 U	91 U	83 U
Vanadium	ug/kg	8500	19400	10400	5500
Zinc	ug/kg	13900	63200	19900	9300
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U	300 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	71 J	28 J	270 U
Total PCBs	ug/kg	0	71 J	28 J	0

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB188-12	SB188-12	SB188-12	SB191-12
Sample Identification		SO-17360-052312-EB-001	SO-17360-052312-EB-002	SO-17360-052312-EB-003	S-17360-103012-DD-115
Sample Date		5/23/2012	5/23/2012	5/23/2012	10/30/2012
Sample Type				Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	51 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	51 U
1,1,2-Trichloroethane	ug/kg	--	--	--	51 U
1,1-Dichloroethane	ug/kg	--	--	--	51 U
1,1-Dichloroethene	ug/kg	--	--	--	51 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	51 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	51 U
1,2-Dichlorobenzene	ug/kg	--	--	--	51 U
1,2-Dichloroethane	ug/kg	--	--	--	51 U
1,2-Dichloropropane	ug/kg	--	--	--	51 U
1,3-Dichlorobenzene	ug/kg	--	--	--	51 U
1,4-Dichlorobenzene	ug/kg	--	--	--	51 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	770 U
2-Hexanone	ug/kg	--	--	--	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	2600 U
Acetone	ug/kg	--	--	--	770 U
Benzene	ug/kg	--	--	--	51 U
Bromodichloromethane	ug/kg	--	--	--	51 U
Bromoform	ug/kg	--	--	--	51 U
Bromomethane (Methyl bromide)	ug/kg	--	--	--	51 U
Carbon disulfide	ug/kg	--	--	--	260 U
Carbon tetrachloride	ug/kg	--	--	--	51 U
Chlorobenzene	ug/kg	--	--	--	51 U
Chloroethane	ug/kg	--	--	--	51 U
Chloroform (Trichloromethane)	ug/kg	--	--	--	51 U
Chloromethane (Methyl chloride)	ug/kg	--	--	--	51 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	51 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	51 U
Cyclohexane	ug/kg	--	--	--	260 U
Dibromochloromethane	ug/kg	--	--	--	51 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	51 U
Ethylbenzene	ug/kg	--	--	--	51 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-052312-EB-001	SO-17360-052312-EB-002	SO-17360-052312-EB-003	S-17360-103012-DD-115
Sample Date		5/23/2012	5/23/2012	5/23/2012	10/30/2012
Sample Type				Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	51 U
Methyl acetate	ug/kg	--	--	--	260 U
Methyl cyclohexane	ug/kg	--	--	--	260 U
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	51 U
Methylene chloride	ug/kg	--	--	--	100 U
Styrene	ug/kg	--	--	--	51 U
Tetrachloroethene	ug/kg	--	--	--	51 U
Toluene	ug/kg	--	--	--	51 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	51 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	51 U
Trichloroethene	ug/kg	--	--	--	51 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	51 U
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	51 U
Vinyl chloride	ug/kg	--	--	--	41 U
Xylenes (total)	ug/kg	--	--	--	150 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	92 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	92 U
2,4,6-Trichlorophenol	ug/kg	--	--	--	92 U
2,4-Dichlorophenol	ug/kg	--	--	--	180 U
2,4-Dimethylphenol	ug/kg	--	--	--	920 U
2,4-Dinitrophenol	ug/kg	--	--	--	920 U
2,4-Dinitrotoluene	ug/kg	--	--	--	180 U
2,6-Dinitrotoluene	ug/kg	--	--	--	92 U
2-Chloronaphthalene	ug/kg	--	--	--	92 U
2-Chlorophenol	ug/kg	--	--	--	92 U
2-Methylnaphthalene	ug/kg	--	--	--	160
2-Methylphenol	ug/kg	--	--	--	92 U
2-Nitroaniline	ug/kg	--	--	--	92 U
2-Nitrophenol	ug/kg	--	--	--	92 U
3,3'-Dichlorobenzidine	ug/kg	--	--	--	4600 U
3-Nitroaniline	ug/kg	--	--	--	180 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-052312-EB-001	SO-17360-052312-EB-002	SO-17360-052312-EB-003	S-17360-103012-DD-115
Sample Date		5/23/2012	5/23/2012	5/23/2012	10/30/2012
Sample Type				Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	920 U
4-Bromophenyl phenyl ether	ug/kg	--	--	--	92 U
4-Chloro-3-methylphenol	ug/kg	--	--	--	92 U
4-Chloroaniline	ug/kg	--	--	--	370 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	92 U
4-Methylphenol	ug/kg	--	--	--	92 U
4-Nitroaniline	ug/kg	--	--	--	180 U
4-Nitrophenol	ug/kg	--	--	--	3700 U
Acenaphthene	ug/kg	--	--	--	300
Acenaphthylene	ug/kg	--	--	--	9.6 J
Acetophenone	ug/kg	--	--	--	92 U
Anthracene	ug/kg	--	--	--	420
Atrazine	ug/kg	--	--	--	92 U
Benzaldehyde	ug/kg	--	--	--	R
Benzo(a)anthracene	ug/kg	--	--	--	1200
Benzo(a)pyrene	ug/kg	--	--	--	830
Benzo(b)fluoranthene	ug/kg	--	--	--	1300
Benzo(g,h,i)perylene	ug/kg	--	--	--	530
Benzo(k)fluoranthene	ug/kg	--	--	--	530
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	92 U
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	92 U
bis(2-Chloroethyl)ether	ug/kg	--	--	--	92 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	180 U
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	180 U
Caprolactam	ug/kg	--	--	--	370 U
Carbazole	ug/kg	--	--	--	270 J
Chrysene	ug/kg	--	--	--	1200
Dibenz(a,h)anthracene	ug/kg	--	--	--	160 J
Dibenzofuran	ug/kg	--	--	--	280
Diethyl phthalate	ug/kg	--	--	--	92 U
Dimethyl phthalate	ug/kg	--	--	--	13 J
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	370 U
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	92 U
Fluoranthene	ug/kg	--	--	--	2400

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-052312-EB-001	SO-17360-052312-EB-002	SO-17360-052312-EB-003	S-17360-103012-DD-115
Sample Date		5/23/2012	5/23/2012	5/23/2012	10/30/2012
Sample Type				Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)					
Fluorene	ug/kg	--	--	--	220
Hexachlorobenzene	ug/kg	--	--	--	92 U
Hexachlorobutadiene	ug/kg	--	--	--	92 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	92 U
Hexachloroethane	ug/kg	--	--	--	92 U
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	470
Isophorone	ug/kg	--	--	--	92 U
Naphthalene	ug/kg	--	--	--	120
Nitrobenzene	ug/kg	--	--	--	92 U
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	92 U
N-Nitrosodiphenylamine	ug/kg	--	--	--	92 U
Pentachlorophenol	ug/kg	--	--	--	920 U
Phenanthrene	ug/kg	--	--	--	**2600[d]**
Phenol	ug/kg	--	--	--	920 U
Pyrene	ug/kg	--	--	--	2600
Total solids	%	96	95	97	91
Metals					
Antimony	ug/kg	--	--	--	380
Arsenic	ug/kg	--	--	--	1900
Barium	ug/kg	--	--	--	44000 J
Beryllium	ug/kg	--	--	--	220 J
Cadmium	ug/kg	--	--	--	120
Chromium	ug/kg	--	--	--	13000
Cobalt	ug/kg	--	--	--	3100
Copper	ug/kg	--	--	--	7200
Iron	ug/kg	--	--	--	5700000
Lead	ug/kg	--	--	--	44000
Manganese	ug/kg	--	--	--	180000
Mercury	ug/kg	--	--	--	26 J
Molybdenum	ug/kg	--	--	--	460 J
Nickel	ug/kg	--	--	--	8400
Selenium	ug/kg	--	--	--	97 J

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		SO-17360-052312-EB-001	SO-17360-052312-EB-002	SO-17360-052312-EB-003	S-17360-103012-DD-115
Sample Date		5/23/2012	5/23/2012	5/23/2012	10/30/2012
Sample Type				Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9
Metals (continued)					
Silver	ug/kg	--	--	--	120
Thallium	ug/kg	--	--	--	38 J
Vanadium	ug/kg	--	--	--	14000
Zinc	ug/kg	--	--	--	31000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	340 U	350 U	340 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	350 U	340 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	350 U	340 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	350 U	340 U	46 J
Aroclor-1248 (PCB-1248)	ug/kg	8.8 J	5.1 J	340 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	19 J	5.9 J	340 U	37 J
Aroclor-1260 (PCB-1260)	ug/kg	15 J	10 J	11 J	21 J
Total PCBs	ug/kg	42.8 J	21 J	11 J	104 J

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB191-12	SB192-12	SB192-12	SB193-12	SB193-12
Sample Identification		S-17360-103012-DD-116	S-17360-103012-DD-112	S-17360-103012-DD-113	S-17360-103012-DD-120	S-17360-103012-DD-121
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type						
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9	AOI 9
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,1,2-Trichloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,1-Dichloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,1-Dichloroethene	ug/kg	52 U	54 U	57 U	53 U	52 U
1,2,4-Trichlorobenzene	ug/kg	52 U	54 U	57 U	53 U	52 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 U	270 U	280 U	260 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	52 U	54 U	57 U	53 U	52 U
1,2-Dichlorobenzene	ug/kg	52 U	54 U	57 U	53 U	52 U
1,2-Dichloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,2-Dichloropropane	ug/kg	52 U	54 U	57 U	53 U	52 U
1,3-Dichlorobenzene	ug/kg	52 U	54 U	57 U	53 U	52 U
1,4-Dichlorobenzene	ug/kg	52 U	54 U	57 U	53 U	52 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	780 U	810 U	850 U	790 U	790 U
2-Hexanone	ug/kg	2600 U	2700 U	2800 U	2600 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2600 U	2700 U	2800 U	2600 U	2600 U
Acetone	ug/kg	780 U	810 U	850 U	790 U	790 U
Benzene	ug/kg	52 U	54 U	57 U	53 U	52 U
Bromodichloromethane	ug/kg	52 U	54 U	57 U	53 U	52 U
Bromoform	ug/kg	52 U	54 U	57 U	53 U	52 U
Bromomethane (Methyl bromide)	ug/kg	52 U	54 U	57 U	53 U	52 U
Carbon disulfide	ug/kg	260 U	270 U	280 U	260 U	260 U
Carbon tetrachloride	ug/kg	52 U	54 U	57 U	53 U	52 U
Chlorobenzene	ug/kg	52 U	54 U	57 U	53 U	52 U
Chloroethane	ug/kg	52 U	54 U	57 U	53 U	52 U
Chloroform (Trichloromethane)	ug/kg	52 U	54 U	57 U	53 U	52 U
Chloromethane (Methyl chloride)	ug/kg	52 U	54 U	57 U	53 U	52 U
cis-1,2-Dichloroethene	ug/kg	52 U	54 U	57 U	53 U	52 U
cis-1,3-Dichloropropene	ug/kg	52 U	54 U	57 U	53 U	52 U
Cyclohexane	ug/kg	260 U	270 U	280 U	260 U	260 U
Dibromochloromethane	ug/kg	52 U	54 U	57 U	53 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	52 U	54 U	57 U	53 U	52 U
Ethylbenzene	ug/kg	52 U	54 U	57 U	53 U	52 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Wyoming, Michigan

Sample Identification		S-17360-103012-DD-116	S-17360-103012-DD-112	S-17360-103012-DD-113	S-17360-103012-DD-120	S-17360-103012-DD-121
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type						
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9	AOI 9
VOCs (continued)						
Isopropyl benzene	ug/kg	52 U	54 U	57 U	53 U	52 U
Methyl acetate	ug/kg	260 U	270 U	280 U	260 U	260 U
Methyl cyclohexane	ug/kg	260 U	270 U	280 U	260 U	260 U
Methyl tert butyl ether (MTBE)	ug/kg	52 U	54 U	57 U	53 U	52 U
Methylene chloride	ug/kg	100 U	110 U	110 U	110 U	100 U
Styrene	ug/kg	52 U	54 U	57 U	53 U	52 U
Tetrachloroethene	ug/kg	52 U	54 U	57 U	53 U	52 U
Toluene	ug/kg	52 U	54 U	57 U	53 U	52 U
trans-1,2-Dichloroethene	ug/kg	52 U	54 U	57 U	53 U	52 U
trans-1,3-Dichloropropene	ug/kg	52 U	54 U	57 U	53 U	52 U
Trichloroethene	ug/kg	52 U	54 U	57 U	53 U	52 U
Trichlorofluoromethane (CFC-11)	ug/kg	52 U	54 U	57 U	53 U	52 U
Trifluorotrichloroethane (Freon 113)	ug/kg	52 U	54 U	57 U	53 U	52 U
Vinyl chloride	ug/kg	42 U	43 U	45 U	42 U	42 U
Xylenes (total)	ug/kg	160 U	160 U	170 U	160 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	17 U	90 U	17 U	88 U	18 U
2,4,5-Trichlorophenol	ug/kg	17 U	90 U	17 U	88 U	18 U
2,4,6-Trichlorophenol	ug/kg	17 U	90 U	17 U	88 U	18 U
2,4-Dichlorophenol	ug/kg	35 U	180 U	35 U	180 U	35 U
2,4-Dimethylphenol	ug/kg	170 U	900 U	170 U	880 U	180 U
2,4-Dinitrophenol	ug/kg	170 U	900 U	170 U	880 U	180 U
2,4-Dinitrotoluene	ug/kg	35 U	180 U	35 U	180 U	35 U
2,6-Dinitrotoluene	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Chloronaphthalene	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Chlorophenol	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Methylnaphthalene	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Methylphenol	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Nitroaniline	ug/kg	17 U	90 U	17 U	88 U	18 U
2-Nitrophenol	ug/kg	17 U	90 U	17 U	88 U	18 U
3,3'-Dichlorobenzidine	ug/kg	870 U	4500 U	870 U	4400 U	870 U
3-Nitroaniline	ug/kg	35 U	180 U	35 U	180 U	35 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
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Wyoming, Michigan

Sample Identification		S-17360-103012-DD-116	S-17360-103012-DD-112	S-17360-103012-DD-113	S-17360-103012-DD-120	S-17360-103012-DD-121
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type						
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)						
4,6-Dinitro-2-methylphenol	ug/kg	170 U	900 U	170 U	880 U	180 U
4-Bromophenyl phenyl ether	ug/kg	17 U	90 U	17 U	88 U	18 U
4-Chloro-3-methylphenol	ug/kg	17 U	90 U	17 U	88 U	18 U
4-Chloroaniline	ug/kg	70 U	360 U	69 U	350 U	70 U
4-Chlorophenyl phenyl ether	ug/kg	17 U	90 U	17 U	88 U	18 U
4-Methylphenol	ug/kg	17 U	90 U	17 U	88 U	18 U
4-Nitroaniline	ug/kg	35 U	180 U	35 U	180 U	35 U
4-Nitrophenol	ug/kg	700 U	3600 U	690 U	3500 U	700 U
Acenaphthene	ug/kg	17 U	12 J	17 U	13 J	18 U
Acenaphthylene	ug/kg	17 U	7.1 J	17 U	88 U	18 U
Acetophenone	ug/kg	17 U	90 U	17 U	88 U	18 U
Anthracene	ug/kg	4.1 J	18 J	17 U	59 J	3.3 J
Atrazine	ug/kg	17 U	90 U	17 U	88 U	18 U
Benzaldehyde	ug/kg	R	R	R	R	R
Benzo(a)anthracene	ug/kg	14 J	120	17 U	230	13 J
Benzo(a)pyrene	ug/kg	7.2 J	100	17 U	260	6.6 J
Benzo(b)fluoranthene	ug/kg	14 J	160	17 U	370	13 J
Benzo(g,h,i)perylene	ug/kg	12 J	120 J	35 U	250	12 J
Benzo(k)fluoranthene	ug/kg	12 J	64 J	17 U	150	12 J
Biphenyl (1,1-Biphenyl)	ug/kg	17 U	90 U	17 U	88 U	18 U
bis(2-Chloroethoxy)methane	ug/kg	17 U	90 U	17 U	88 U	18 U
bis(2-Chloroethyl)ether	ug/kg	17 U	90 U	17 U	88 U	18 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	35 U	180 U	35 U	180 U	35 U
Butyl benzylphthalate (BBP)	ug/kg	35 U	180 U	35 U	180 U	35 U
Caprolactam	ug/kg	70 U	360 U	69 U	350 U	70 U
Carbazole	ug/kg	14 J	900 U	170 U	880 U	15 J
Chrysene	ug/kg	15 J	120	17 U	280	16 J
Dibenz(a,h)anthracene	ug/kg	11 J	18 J	35 U	57 J	11 J
Dibenzofuran	ug/kg	17 U	11 J	17 U	7.2 J	1.5 J
Diethyl phthalate	ug/kg	19 U	90 U	17 U	88 U	19 U
Dimethyl phthalate	ug/kg	17 U	21 J	17 U	88 U	18 U
Di-n-butylphthalate (DBP)	ug/kg	86 U	360 U	69 U	350 U	70 U
Di-n-octyl phthalate (DnOP)	ug/kg	16 J	90 U	17 U	88 U	16 J
Fluoranthene	ug/kg	12 J	190	17 U	480	14 J

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		S-17360-103012-DD-116	S-17360-103012-DD-112	S-17360-103012-DD-113	S-17360-103012-DD-120	S-17360-103012-DD-121
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type						
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9	AOI 9
SVOCs (continued)						
Fluorene	ug/kg	1.7 J	11 J	35 U	16 J	1.8 J
Hexachlorobenzene	ug/kg	17 U	90 U	17 U	88 U	18 U
Hexachlorobutadiene	ug/kg	17 U	90 U	17 U	88 U	18 U
Hexachlorocyclopentadiene	ug/kg	17 U	90 U	17 U	88 U	18 U
Hexachloroethane	ug/kg	17 U	90 U	17 U	88 U	18 U
Indeno(1,2,3-cd)pyrene	ug/kg	11 J	89 J	35 U	200	11 J
Isophorone	ug/kg	17 U	90 U	17 U	88 U	18 U
Naphthalene	ug/kg	17 U	90 U	17 U	88 U	18 U
Nitrobenzene	ug/kg	17 U	90 U	17 U	88 U	18 U
N-Nitrosodi-n-propylamine	ug/kg	17 U	90 U	17 U	88 U	18 U
N-Nitrosodiphenylamine	ug/kg	2.7 J	90 U	17 U	88 U	18 U
Pentachlorophenol	ug/kg	170 U	900 U	170 U	880 U	180 U
Phenanthrene	ug/kg	5.8 J	120	17 U	260	5.1 J
Phenol	ug/kg	170 U	900 U	170 U	880 U	180 U
Pyrene	ug/kg	12 J	220	17 U	570	13 J
Total solids	%	96	93	96	94	95
Metals						
Antimony	ug/kg	59 J	170	130	250	140
Arsenic	ug/kg	1800	1600	3700	1100	5400
Barium	ug/kg	3900 J	19000 J	7400 J	21000 J	12000 J
Beryllium	ug/kg	53 J	140 J	98 J	95 J	130 J
Cadmium	ug/kg	17 J	180	32 J	370	46 J
Chromium	ug/kg	4800	7500	7800	6700	9300
Cobalt	ug/kg	1500	2100	3200	2200	3600
Copper	ug/kg	3300	8000	7000	28000	9500
Iron	ug/kg	3800000	4900000	7000000	4000000	9500000
Lead	ug/kg	2200	8300	3600	28000	5700
Manganese	ug/kg	120000	140000	290000	83000	370000
Mercury	ug/kg	46 U	46 U	50 U	50 U	46 U
Molybdenum	ug/kg	150 J	580 J	330 J	730 J	490 J
Nickel	ug/kg	4100	5900	7500	9500	10000
Selenium	ug/kg	100 U	130	94 U	100 U	89 J

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		S-17360-103012-DD-116	S-17360-103012-DD-112	S-17360-103012-DD-113	S-17360-103012-DD-120	S-17360-103012-DD-121
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type						
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 9	AOI 9	AOI 9	AOI 9	AOI 9
Metals (continued)						
Silver	ug/kg	14 J	24 J	29 J	120	28 J
Thallium	ug/kg	17 J	41 J	59	24 J	65
Vanadium	ug/kg	5500	9300	16000	6500	13000
Zinc	ug/kg	11000	19000	23000	63000	26000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	360 U	340 U	350 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	150 J	340 U	350 U	350 U
Total PCBs	ug/kg	0	150 J	0	0	0

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB194-12**	**SB194-12**
Sample Identification		**S-17360-103012-DD-117**	**S-17360-103012-DD-118**
Sample Date		**10/30/2012**	**10/30/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	54 U	53 U
1,1,2,2-Tetrachloroethane	ug/kg	54 U	53 U
1,1,2-Trichloroethane	ug/kg	54 U	53 U
1,1-Dichloroethane	ug/kg	54 U	53 U
1,1-Dichloroethene	ug/kg	54 U	53 U
1,2,4-Trichlorobenzene	ug/kg	54 U	53 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	270 U	270 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	54 U	53 U
1,2-Dichlorobenzene	ug/kg	54 U	53 U
1,2-Dichloroethane	ug/kg	54 U	53 U
1,2-Dichloropropane	ug/kg	54 U	53 U
1,3-Dichlorobenzene	ug/kg	54 U	53 U
1,4-Dichlorobenzene	ug/kg	54 U	53 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	810 U	800 U
2-Hexanone	ug/kg	2700 U	2700 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2700 U	2700 U
Acetone	ug/kg	810 U	800 U
Benzene	ug/kg	54 U	53 U
Bromodichloromethane	ug/kg	54 U	53 U
Bromoform	ug/kg	54 U	53 U
Bromomethane (Methyl bromide)	ug/kg	54 U	53 U
Carbon disulfide	ug/kg	270 U	270 U
Carbon tetrachloride	ug/kg	54 U	53 U
Chlorobenzene	ug/kg	54 U	53 U
Chloroethane	ug/kg	54 U	53 U
Chloroform (Trichloromethane)	ug/kg	54 U	53 U
Chloromethane (Methyl chloride)	ug/kg	54 U	53 U
cis-1,2-Dichloroethene	ug/kg	54 U	53 U
cis-1,3-Dichloropropene	ug/kg	54 U	53 U
Cyclohexane	ug/kg	270 U	270 U
Dibromochloromethane	ug/kg	54 U	53 U
Dichlorodifluoromethane (CFC-12)	ug/kg	54 U	53 U
Ethylbenzene	ug/kg	54 U	53 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		**S-17360-103012-DD-117**	**S-17360-103012-DD-118**
Sample Date		**10/30/2012**	**10/30/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**
VOCs (continued)			
Isopropyl benzene	ug/kg	54 U	53 U
Methyl acetate	ug/kg	270 U	270 U
Methyl cyclohexane	ug/kg	270 U	270 U
Methyl tert butyl ether (MTBE)	ug/kg	54 U	53 U
Methylene chloride	ug/kg	110 U	110 U
Styrene	ug/kg	54 U	53 U
Tetrachloroethene	ug/kg	54 U	53 U
Toluene	ug/kg	54 U	53 U
trans-1,2-Dichloroethene	ug/kg	54 U	53 U
trans-1,3-Dichloropropene	ug/kg	54 U	53 U
Trichloroethene	ug/kg	14 J	53 U
Trichlorofluoromethane (CFC-11)	ug/kg	54 U	53 U
Trifluorotrichloroethane (Freon 113)	ug/kg	54 U	53 U
Vinyl chloride	ug/kg	43 U	43 U
Xylenes (total)	ug/kg	160 U	160 U
Semi-Volatile Organic Compounds (SVOCs)			
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	91 U	18 U
2,4,5-Trichlorophenol	ug/kg	91 U	18 U
2,4,6-Trichlorophenol	ug/kg	91 U	18 U
2,4-Dichlorophenol	ug/kg	180 U	35 U
2,4-Dimethylphenol	ug/kg	910 U	180 U
2,4-Dinitrophenol	ug/kg	910 U	180 U
2,4-Dinitrotoluene	ug/kg	180 U	35 U
2,6-Dinitrotoluene	ug/kg	91 U	18 U
2-Chloronaphthalene	ug/kg	91 U	18 U
2-Chlorophenol	ug/kg	91 U	18 U
2-Methylnaphthalene	ug/kg	110	21
2-Methylphenol	ug/kg	91 U	18 U
2-Nitroaniline	ug/kg	91 U	18 U
2-Nitrophenol	ug/kg	91 U	18 U
3,3'-Dichlorobenzidine	ug/kg	4500 U	890 U
3-Nitroaniline	ug/kg	180 U	35 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		**S-17360-103012-DD-117**	**S-17360-103012-DD-118**
Sample Date		**10/30/2012**	**10/30/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**
SVOCs (continued)			
4,6-Dinitro-2-methylphenol	ug/kg	910 U	180 U
4-Bromophenyl phenyl ether	ug/kg	91 U	18 U
4-Chloro-3-methylphenol	ug/kg	91 U	18 U
4-Chloroaniline	ug/kg	360 U	71 U
4-Chlorophenyl phenyl ether	ug/kg	91 U	18 U
4-Methylphenol	ug/kg	91 U	18 U
4-Nitroaniline	ug/kg	180 U	35 U
4-Nitrophenol	ug/kg	3600 U	710 U
Acenaphthene	ug/kg	300	9.4 J
Acenaphthylene	ug/kg	9.1 J	1 J
Acetophenone	ug/kg	91 U	18 U
Anthracene	ug/kg	500	16 J
Atrazine	ug/kg	91 U	18 U
Benzaldehyde	ug/kg	R	R
Benzo(a)anthracene	ug/kg	1400	75
Benzo(a)pyrene	ug/kg	950	48
Benzo(b)fluoranthene	ug/kg	1300	87
Benzo(g,h,i)perylene	ug/kg	560	42
Benzo(k)fluoranthene	ug/kg	480	36
Biphenyl (1,1-Biphenyl)	ug/kg	91 U	18 U
bis(2-Chloroethoxy)methane	ug/kg	91 U	18 U
bis(2-Chloroethyl)ether	ug/kg	91 U	18 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	180 U	77 U
Butyl benzylphthalate (BBP)	ug/kg	180 U	35 U
Caprolactam	ug/kg	360 U	71 U
Carbazole	ug/kg	260 J	19 J
Chrysene	ug/kg	1300	67
Dibenz(a,h)anthracene	ug/kg	170 J	21 J
Dibenzofuran	ug/kg	250	8.1 J
Diethyl phthalate	ug/kg	91 U	18 U
Dimethyl phthalate	ug/kg	91 U	18 U
Di-n-butylphthalate (DBP)	ug/kg	360 U	71 U
Di-n-octyl phthalate (DnOP)	ug/kg	91 U	19
Fluoranthene	ug/kg	2400	120

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		**S-17360-103012-DD-117**	**S-17360-103012-DD-118**
Sample Date		**10/30/2012**	**10/30/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**
SVOCs (continued)			
Fluorene	ug/kg	230	8.4 J
Hexachlorobenzene	ug/kg	91 U	18 U
Hexachlorobutadiene	ug/kg	91 U	18 U
Hexachlorocyclopentadiene	ug/kg	91 U	18 U
Hexachloroethane	ug/kg	91 U	18 U
Indeno(1,2,3-cd)pyrene	ug/kg	510	42
Isophorone	ug/kg	91 U	18 U
Naphthalene	ug/kg	64 J	11 J
Nitrobenzene	ug/kg	91 U	18 U
N-Nitrosodi-n-propylamine	ug/kg	91 U	18 U
N-Nitrosodiphenylamine	ug/kg	91 U	18 U
Pentachlorophenol	ug/kg	910 U	180 U
Phenanthrene	ug/kg	**3000[d]**	93
Phenol	ug/kg	910 U	180 U
Pyrene	ug/kg	3100	110
Total solids	%	92	94
Metals			
Antimony	ug/kg	320	110
Arsenic	ug/kg	2000	3000
Barium	ug/kg	32000 J	16000 J
Beryllium	ug/kg	170 J	110 J
Cadmium	ug/kg	140	47
Chromium	ug/kg	8400	8200
Cobalt	ug/kg	2200	2300
Copper	ug/kg	6900	6100
Iron	ug/kg	4400000	8000000
Lead	ug/kg	35000	4900
Manganese	ug/kg	130000	260000
Mercury	ug/kg	15 J	50 U
Molybdenum	ug/kg	420 J	1100
Nickel	ug/kg	6800	6000
Selenium	ug/kg	36 J	92 U

Table 3.13

Soil Sample Analytical Results - AOI 9 – Former WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Identification		**S-17360-103012-DD-117**	**S-17360-103012-DD-118**
Sample Date		**10/30/2012**	**10/30/2012**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 9**	**AOI 9**
Metals (continued)			
Silver	ug/kg	35 J	21 J
Thallium	ug/kg	35 J	49
Vanadium	ug/kg	9400	10000
Zinc	ug/kg	31000	22000
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	360 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	27 J	350 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	35 J	350 U
Aroclor-1260 (PCB-1260)	ug/kg	21 J	3.5 J
Total PCBs	ug/kg	83 J	3.5 J

Table 3.14.1

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB136-11	SB136-11	SB195-12	SB195-12	SB196-12
Sample Identification		S-17360-092611-EM-001	S-17360-092611-EM-002	S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106
Sample Date		9/26/2011	9/26/2011	10/26/2012	10/26/2012	10/25/2012
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	59 U	59 U	55 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	59 U	59 U	55 U
1,1,2-Trichloroethane	ug/kg	--	--	59 U	59 U	55 U
1,1-Dichloroethane	ug/kg	--	--	59 U	59 U	55 U
1,1-Dichloroethene	ug/kg	--	--	59 U	59 U	55 U
1,2,4-Trichlorobenzene	ug/kg	--	--	59 U	59 U	55 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	300 U	290 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	59 U	59 U	55 U
1,2-Dichlorobenzene	ug/kg	--	--	59 U	59 U	55 U
1,2-Dichloroethane	ug/kg	--	--	59 U	59 U	55 U
1,2-Dichloropropane	ug/kg	--	--	59 U	59 U	55 U
1,3-Dichlorobenzene	ug/kg	--	--	59 U	59 U	55 U
1,4-Dichlorobenzene	ug/kg	--	--	59 U	59 U	55 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	890 U	880 U	830 U
2-Hexanone	ug/kg	--	--	3000 U	2900 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	3000 U	2900 U	2800 U
Acetone	ug/kg	--	--	890 U	880 U	830 UJ
Benzene	ug/kg	--	--	59 U	41 J	55 U
Bromodichloromethane	ug/kg	--	--	59 U	59 U	55 U
Bromoform	ug/kg	--	--	59 U	59 U	55 U
Bromomethane (Methyl bromide)	ug/kg	--	--	59 U	59 U	55 U
Carbon disulfide	ug/kg	--	--	300 U	290 U	280 U
Carbon tetrachloride	ug/kg	--	--	59 U	59 U	55 U
Chlorobenzene	ug/kg	--	--	59 U	59 U	55 U
Chloroethane	ug/kg	--	--	59 U	59 U	55 U
Chloroform (Trichloromethane)	ug/kg	--	--	59 U	59 U	55 U
Chloromethane (Methyl chloride)	ug/kg	--	--	59 U	59 U	55 U
cis-1,2-Dichloroethene	ug/kg	--	--	59 U	59 U	55 U
cis-1,3-Dichloropropene	ug/kg	--	--	59 U	59 U	55 U
Cyclohexane	ug/kg	--	--	300 U	290 U	280 U
Dibromochloromethane	ug/kg	--	--	59 U	59 U	55 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	59 U	59 U	55 U
Ethylbenzene	ug/kg	--	--	**480**[d]	23 J	110

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB136-11	SB136-11	SB195-12	SB195-12	SB196-12
Sample Identification		S-17360-092611-EM-001	S-17360-092611-EM-002	S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106
Sample Date		9/26/2011	9/26/2011	10/26/2012	10/26/2012	10/25/2012
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Isopropyl benzene	ug/kg	--	--	59 U	33 J	55 U
Methyl acetate	ug/kg	--	--	300 U	290 U	280 U
Methyl cyclohexane	ug/kg	--	--	300 U	33 J	22 J
Methyl tert butyl ether (MTBE)	ug/kg	--	--	59 U	59 U	55 U
Methylene chloride	ug/kg	--	--	120 U	120 U	69 J
Styrene	ug/kg	--	--	59 U	59 U	55 U
Tetrachloroethene	ug/kg	--	--	59 U	59 U	55 U
Toluene	ug/kg	--	--	59 U	130	19 J
trans-1,2-Dichloroethene	ug/kg	--	--	59 U	59 U	55 U
trans-1,3-Dichloropropene	ug/kg	--	--	59 U	59 U	55 U
Trichloroethene	ug/kg	--	--	59 U	59 U	13 J
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	59 U	59 U	19 J
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	59 U	59 U	55 U
Vinyl chloride	ug/kg	--	--	47 U	47 U	44 U
Xylenes (total)	ug/kg	--	--	**2100**[d]	96 J	520
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	180 U	2000 U	180 U
2,4,5-Trichlorophenol	ug/kg	--	--	180 U	2000 U	180 U
2,4,6-Trichlorophenol	ug/kg	--	--	180 U	2000 U	180 U
2,4-Dichlorophenol	ug/kg	--	--	360 U	3900 U	370 U
2,4-Dimethylphenol	ug/kg	--	--	1800 U	20000 U	1800 U
2,4-Dinitrophenol	ug/kg	--	--	1800 U	20000 U	1800 U
2,4-Dinitrotoluene	ug/kg	--	--	360 U	3900 U	370 U
2,6-Dinitrotoluene	ug/kg	--	--	180 U	2000 U	180 U
2-Chloronaphthalene	ug/kg	--	--	180 U	2000 U	180 U
2-Chlorophenol	ug/kg	--	--	180 U	2000 U	180 U
2-Methylnaphthalene	ug/kg	--	--	360	960 J	620
2-Methylphenol	ug/kg	--	--	180 U	2000 U	180 U
2-Nitroaniline	ug/kg	--	--	180 U	2000 U	180 U
2-Nitrophenol	ug/kg	--	--	180 U	2000 U	180 U
3,3'-Dichlorobenzidine	ug/kg	--	--	9100 U	98000 U	9200 U
3-Nitroaniline	ug/kg	--	--	360 U	3900 U	370 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	1800 U	20000 U	1800 U

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB136-11	SB136-11	SB195-12	SB195-12	SB196-12
Sample Identification		S-17360-092611-EM-001	S-17360-092611-EM-002	S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106
Sample Date		9/26/2011	9/26/2011	10/26/2012	10/26/2012	10/25/2012
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
4-Bromophenyl phenyl ether	ug/kg	--	--	180 U	2000 U	180 U
4-Chloro-3-methylphenol	ug/kg	--	--	180 U	2000 U	180 U
4-Chloroaniline	ug/kg	--	--	730 U	7800 U	730 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	180 U	2000 U	180 U
4-Methylphenol	ug/kg	--	--	180 U	2000 U	180 U
4-Nitroaniline	ug/kg	--	--	360 U	3900 U	370 U
4-Nitrophenol	ug/kg	--	--	7300 U	78000 U	7300 U
Acenaphthene	ug/kg	--	--	690	3800	860
Acenaphthylene	ug/kg	--	--	30 J	2000 U	35 J
Acetophenone	ug/kg	--	--	180 U	2000 U	180 U
Anthracene	ug/kg	--	--	780	9200	880
Atrazine	ug/kg	--	--	180 U	2000 U	180 U
Benzaldehyde	ug/kg	--	--	730 U	7800 U	730 U
Benzo(a)anthracene	ug/kg	--	--	3100	**24000[o]**	2800
Benzo(a)pyrene	ug/kg	--	--	**2100[o]**	**17000[op]**	1900
Benzo(b)fluoranthene	ug/kg	--	--	3000	**22000[o]**	2900
Benzo(g,h,i)perylene	ug/kg	--	--	1300	9500	1300
Benzo(k)fluoranthene	ug/kg	--	--	1600	6500	1100
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	180 U	2000 U	180 U
bis(2-Chloroethoxy)methane	ug/kg	--	--	180 U	2000 U	180 U
bis(2-Chloroethyl)ether	ug/kg	--	--	180 U	2000 U	180 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	360 U	3900 U	370 U
Butyl benzylphthalate (BBP)	ug/kg	--	--	360 U	3900 U	370 U
Caprolactam	ug/kg	--	--	730 UJ	7800 UJ	730 UJ
Carbazole	ug/kg	--	--	520 J	**7700 J[d]**	610 J
Chrysene	ug/kg	--	--	3000	21000	2700
Dibenz(a,h)anthracene	ug/kg	--	--	390	**3100 J[o]**	370
Dibenzofuran	ug/kg	--	--	680	1700 J	800
Diethyl phthalate	ug/kg	--	--	180 U	2000 U	180 U
Dimethyl phthalate	ug/kg	--	--	180 U	2000 U	180 U
Di-n-butylphthalate (DBP)	ug/kg	--	--	730 U	7800 U	730 U
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	180 U	2000 U	180 U
Fluoranthene	ug/kg	--	--	**5600[d]**	**48000[d]**	**6900[d]**
Fluorene	ug/kg	--	--	530	3400 J	730

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB136-11	SB136-11	SB195-12	SB195-12	SB196-12
Sample Identification		S-17360-092611-EM-001	S-17360-092611-EM-002	S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106
Sample Date		9/26/2011	9/26/2011	10/26/2012	10/26/2012	10/25/2012
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Hexachlorobenzene	ug/kg	--	--	180 U	2000 U	180 U
Hexachlorobutadiene	ug/kg	--	--	180 U	2000 U	180 U
Hexachlorocyclopentadiene	ug/kg	--	--	180 U	2000 U	180 U
Hexachloroethane	ug/kg	--	--	180 U	2000 U	180 U
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	1200	9200	1100
Isophorone	ug/kg	--	--	180 U	2000 U	180 U
Naphthalene	ug/kg	--	--	270	520 J	350
Nitrobenzene	ug/kg	--	--	180 U	2000 U	180 U
N-Nitrosodi-n-propylamine	ug/kg	--	--	180 U	2000 U	180 U
N-Nitrosodiphenylamine	ug/kg	--	--	180 U	2000 U	180 U
Pentachlorophenol	ug/kg	--	--	1800 U	20000 U	1800 U
Phenanthrene	ug/kg	--	--	**6400[d]**	**37000[d]**	**7600[d]**
Phenol	ug/kg	--	--	1800 UJ	20000 UJ	1800 UJ
Pyrene	ug/kg	--	--	5800	43000	5900
Metals						
Antimony	ug/kg	--	--	840	290	1200
Arsenic	ug/kg	--	--	2400	2100	2500
Barium	ug/kg	--	--	63000	29000	66000
Beryllium	ug/kg	--	--	270 J	180 J	250 J
Cadmium	ug/kg	--	--	190	68	130
Chromium	ug/kg	--	--	12000	15000	11000
Cobalt	ug/kg	--	--	2800	2400	2500
Copper	ug/kg	--	--	9100	6400	15000
Iron	ug/kg	--	--	6200000	7300000	8100000
Lead	ug/kg	--	--	99000	8400	120000
Manganese	ug/kg	--	--	190000	150000	180000
Mercury	ug/kg	--	--	12 J	46 U	17 J
Molybdenum	ug/kg	--	--	810 J	830 J	**1700[b]**
Nickel	ug/kg	--	--	8000	7000	7400
Selenium	ug/kg	--	--	88 J	100 U	100
Silver	ug/kg	--	--	63	48 J	75
Sodium	ug/kg	85000	76000 U	--	--	--
Thallium	ug/kg	--	--	38 J	25 J	38 J

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB136-11	SB136-11	SB195-12	SB195-12	SB196-12
Sample Identification		S-17360-092611-EM-001	S-17360-092611-EM-002	S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106
Sample Date		9/26/2011	9/26/2011	10/26/2012	10/26/2012	10/25/2012
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Vanadium	ug/kg	--	--	13000	9400	13000
Zinc	ug/kg	--	--	38000	26000	44000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	360 U	390 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	--	--	360 U	390 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	--	--	360 U	390 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	--	--	360 U	390 U	41 J
Aroclor-1248 (PCB-1248)	ug/kg	--	--	360 U	390 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	--	--	65 J	26 J	92 J
Aroclor-1260 (PCB-1260)	ug/kg	--	--	30 J	100 J	47 J
Total PCBs	ug/kg	--	--	95 J	126 J	180 J

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB196-12	SB222-13	SB222-13	SB274-13
Sample Identification		S-17360-102512-DD-107	SO-17360-042313-DR-043	SO-17360-042313-DR-044	SO-017360-102113-MR-001
Sample Date		10/25/2012	4/23/2013	4/23/2013	10/21/2013
Sample Type					
Sample Depth		(11-13) ft BGS	(0-2) ft BGS	(10-12) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	60 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	60 U	--	--	--
1,1,2-Trichloroethane	ug/kg	60 U	--	--	--
1,1-Dichloroethane	ug/kg	60 U	--	--	--
1,1-Dichloroethene	ug/kg	60 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	60 U	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	300 U	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	60 U	--	--	--
1,2-Dichlorobenzene	ug/kg	60 U	--	--	--
1,2-Dichloroethane	ug/kg	60 U	--	--	--
1,2-Dichloropropane	ug/kg	60 U	--	--	--
1,3-Dichlorobenzene	ug/kg	60 U	--	--	--
1,4-Dichlorobenzene	ug/kg	60 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	910 U	--	--	--
2-Hexanone	ug/kg	3000 U	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3000 U	--	--	--
Acetone	ug/kg	910 U	--	--	--
Benzene	ug/kg	60 U	--	--	--
Bromodichloromethane	ug/kg	60 U	--	--	--
Bromoform	ug/kg	60 U	--	--	--
Bromomethane (Methyl bromide)	ug/kg	60 U	--	--	--
Carbon disulfide	ug/kg	300 U	--	--	--
Carbon tetrachloride	ug/kg	60 U	--	--	--
Chlorobenzene	ug/kg	60 U	--	--	--
Chloroethane	ug/kg	60 U	--	--	--
Chloroform (Trichloromethane)	ug/kg	60 U	--	--	--
Chloromethane (Methyl chloride)	ug/kg	60 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	60 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	60 U	--	--	--
Cyclohexane	ug/kg	300 U	--	--	--
Dibromochloromethane	ug/kg	60 U	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	60 U	--	--	--
Ethylbenzene	ug/kg	60 U	--	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB196-12	SB222-13	SB222-13	SB274-13
Sample Identification		S-17360-102512-DD-107	SO-17360-042313-DR-043	SO-17360-042313-DR-044	SO-017360-102113-MR-001
Sample Date		10/25/2012	4/23/2013	4/23/2013	10/21/2013
Sample Type					
Sample Depth		(11-13) ft BGS	(0-2) ft BGS	(10-12) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Isopropyl benzene	ug/kg	60 U	--	--	--
Methyl acetate	ug/kg	300 U	--	--	--
Methyl cyclohexane	ug/kg	300 U	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	60 U	--	--	--
Methylene chloride	ug/kg	120 U	--	--	--
Styrene	ug/kg	60 U	--	--	--
Tetrachloroethene	ug/kg	40 J	--	--	--
Toluene	ug/kg	60 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	60 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	60 U	--	--	--
Trichloroethene	ug/kg	60 U	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	60 U	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	60 U	--	--	--
Vinyl chloride	ug/kg	48 U	--	--	--
Xylenes (total)	ug/kg	180 U	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	20 U	--	--	--
2,4,5-Trichlorophenol	ug/kg	20 U	--	--	--
2,4,6-Trichlorophenol	ug/kg	20 U	--	--	--
2,4-Dichlorophenol	ug/kg	40 U	--	--	--
2,4-Dimethylphenol	ug/kg	200 U	--	--	--
2,4-Dinitrophenol	ug/kg	200 U	--	--	--
2,4-Dinitrotoluene	ug/kg	40 U	--	--	--
2,6-Dinitrotoluene	ug/kg	20 U	--	--	--
2-Chloronaphthalene	ug/kg	20 U	--	--	--
2-Chlorophenol	ug/kg	20 U	--	--	--
2-Methylnaphthalene	ug/kg	3.7 J	850 U	82 U	6.8 U
2-Methylphenol	ug/kg	20 U	--	--	--
2-Nitroaniline	ug/kg	20 U	--	--	--
2-Nitrophenol	ug/kg	20 U	--	--	--
3,3'-Dichlorobenzidine	ug/kg	1000 U	--	--	--
3-Nitroaniline	ug/kg	40 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	200 U	--	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB196-12	SB222-13	SB222-13	SB274-13
Sample Identification		S-17360-102512-DD-107	SO-17360-042313-DR-043	SO-17360-042313-DR-044	SO-017360-102113-MR-001
Sample Date		10/25/2012	4/23/2013	4/23/2013	10/21/2013
Sample Type					
Sample Depth		(11-13) ft BGS	(0-2) ft BGS	(10-12) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
4-Bromophenyl phenyl ether	ug/kg	20 U	--	--	--
4-Chloro-3-methylphenol	ug/kg	20 U	--	--	--
4-Chloroaniline	ug/kg	81 U	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	20 U	--	--	--
4-Methylphenol	ug/kg	20 U	--	--	--
4-Nitroaniline	ug/kg	40 U	--	--	--
4-Nitrophenol	ug/kg	810 U	--	--	--
Acenaphthene	ug/kg	14 J	860	31 U	6.8 U
Acenaphthylene	ug/kg	20 U	320 U	31 U	6.8 U
Acetophenone	ug/kg	20 U	--	--	--
Anthracene	ug/kg	26	1900	31 U	6.8 U
Atrazine	ug/kg	20 U	--	--	--
Benzaldehyde	ug/kg	81 U	--	--	--
Benzo(a)anthracene	ug/kg	75 U	4000	31 U	6.8 U
Benzo(a)pyrene	ug/kg	55	**4400[o]**	31 U	6.8 U
Benzo(b)fluoranthene	ug/kg	82	5000	31 U	6.8 U
Benzo(g,h,i)perylene	ug/kg	33 J	2000	31 U	6.8 U
Benzo(k)fluoranthene	ug/kg	39	2700	31 U	6.8 U
Biphenyl (1,1-Biphenyl)	ug/kg	20 U	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	20 U	--	--	--
bis(2-Chloroethyl)ether	ug/kg	20 U	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	40 U	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	40 U	--	--	--
Caprolactam	ug/kg	81 UJ	--	--	--
Carbazole	ug/kg	17 J	--	--	--
Chrysene	ug/kg	72	4600	31 U	6.8 U
Dibenz(a,h)anthracene	ug/kg	40 U	320 U	31 U	6.8 U
Dibenzofuran	ug/kg	13 J	--	--	--
Diethyl phthalate	ug/kg	20 U	--	--	--
Dimethyl phthalate	ug/kg	20 U	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	81 U	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	20 U	--	--	--
Fluoranthene	ug/kg	160	**11000[d]**	31 U	6.8 U
Fluorene	ug/kg	11 J	750	31 U	6.8 U

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB196-12	SB222-13	SB222-13	SB274-13
Sample Identification		S-17360-102512-DD-107	SO-17360-042313-DR-043	SO-17360-042313-DR-044	SO-017360-102113-MR-001
Sample Date		10/25/2012	4/23/2013	4/23/2013	10/21/2013
Sample Type					
Sample Depth		(11-13) ft BGS	(0-2) ft BGS	(10-12) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Hexachlorobenzene	ug/kg	20 U	--	--	--
Hexachlorobutadiene	ug/kg	20 U	--	--	--
Hexachlorocyclopentadiene	ug/kg	20 U	--	--	--
Hexachloroethane	ug/kg	20 U	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	40 U	1800	31 U	6.8 U
Isophorone	ug/kg	20 U	--	--	--
Naphthalene	ug/kg	4.1 J	240 J	31 U	6.8 U
Nitrobenzene	ug/kg	20 U	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	20 U	--	--	--
N-Nitrosodiphenylamine	ug/kg	20 U	--	--	--
Pentachlorophenol	ug/kg	200 U	--	--	--
Phenanthrene	ug/kg	130	**7600[d]**	31 U	6.8 U
Phenol	ug/kg	200 UJ	--	--	--
Pyrene	ug/kg	160	10000	31 U	6.8 U
Metals					
Antimony	ug/kg	82 J	--	--	--
Arsenic	ug/kg	1600	--	--	--
Barium	ug/kg	6400	--	--	--
Beryllium	ug/kg	84 J	--	--	--
Cadmium	ug/kg	24 J	--	--	--
Chromium	ug/kg	3100	--	--	--
Cobalt	ug/kg	1200	--	--	--
Copper	ug/kg	3300	--	--	--
Iron	ug/kg	4100000	--	--	--
Lead	ug/kg	2700	--	--	--
Manganese	ug/kg	130000	--	--	--
Mercury	ug/kg	47 U	--	--	--
Molybdenum	ug/kg	140 J	--	--	--
Nickel	ug/kg	3400	--	--	--
Selenium	ug/kg	100 U	--	--	--
Silver	ug/kg	16 J	--	--	--
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	29 J	--	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB196-12	SB222-13	SB222-13	SB274-13
Sample Identification		S-17360-102512-DD-107	SO-17360-042313-DR-043	SO-17360-042313-DR-044	SO-017360-102113-MR-001
Sample Date		10/25/2012	4/23/2013	4/23/2013	10/21/2013
Sample Type					
Sample Depth		(11-13) ft BGS	(0-2) ft BGS	(10-12) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1	AOI 10.1	AOI 10.1
Vanadium	ug/kg	4200	--	--	--
Zinc	ug/kg	13000	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	400 U	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	400 U	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	400 U	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	400 U	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	400 U	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	400 U	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	400 U	--	--	--
Total PCBs	ug/kg	0	--	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB275-13**	**SB276-13**
Sample Identification		**SO-017360-102113-MR-003**	**SO-017360-102113-MR-002**
Sample Date		**10/21/2013**	**10/21/2013**
Sample Type			
Sample Depth		**(11-13) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 10.1**	**AOI 10.1**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--
1,1,2-Trichloroethane	ug/kg	--	--
1,1-Dichloroethane	ug/kg	--	--
1,1-Dichloroethene	ug/kg	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--
1,2-Dichlorobenzene	ug/kg	--	--
1,2-Dichloroethane	ug/kg	--	--
1,2-Dichloropropane	ug/kg	--	--
1,3-Dichlorobenzene	ug/kg	--	--
1,4-Dichlorobenzene	ug/kg	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--
2-Hexanone	ug/kg	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--
Acetone	ug/kg	--	--
Benzene	ug/kg	--	--
Bromodichloromethane	ug/kg	--	--
Bromoform	ug/kg	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--
Carbon disulfide	ug/kg	--	--
Carbon tetrachloride	ug/kg	--	--
Chlorobenzene	ug/kg	--	--
Chloroethane	ug/kg	--	--
Chloroform (Trichloromethane)	ug/kg	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--
cis-1,2-Dichloroethene	ug/kg	--	--
cis-1,3-Dichloropropene	ug/kg	--	--
Cyclohexane	ug/kg	--	--
Dibromochloromethane	ug/kg	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--
Ethylbenzene	ug/kg	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB275-13	SB276-13
Sample Identification		SO-017360-102113-MR-003	SO-017360-102113-MR-002
Sample Date		10/21/2013	10/21/2013
Sample Type			
Sample Depth		(11-13) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1
Isopropyl benzene	ug/kg	--	--
Methyl acetate	ug/kg	--	--
Methyl cyclohexane	ug/kg	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--
Methylene chloride	ug/kg	--	--
Styrene	ug/kg	--	--
Tetrachloroethene	ug/kg	--	--
Toluene	ug/kg	--	--
trans-1,2-Dichloroethene	ug/kg	--	--
trans-1,3-Dichloropropene	ug/kg	--	--
Trichloroethene	ug/kg	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--
Vinyl chloride	ug/kg	--	--
Xylenes (total)	ug/kg	--	--
Semi-Volatile Organic Compounds (SVOCs)			
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--
2,4,5-Trichlorophenol	ug/kg	--	--
2,4,6-Trichlorophenol	ug/kg	--	--
2,4-Dichlorophenol	ug/kg	--	--
2,4-Dimethylphenol	ug/kg	--	--
2,4-Dinitrophenol	ug/kg	--	--
2,4-Dinitrotoluene	ug/kg	--	--
2,6-Dinitrotoluene	ug/kg	--	--
2-Chloronaphthalene	ug/kg	--	--
2-Chlorophenol	ug/kg	--	--
2-Methylnaphthalene	ug/kg	6.9 U	6.7 U
2-Methylphenol	ug/kg	--	--
2-Nitroaniline	ug/kg	--	--
2-Nitrophenol	ug/kg	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--
3-Nitroaniline	ug/kg	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB275-13	SB276-13
Sample Identification		SO-017360-102113-MR-003	SO-017360-102113-MR-002
Sample Date		10/21/2013	10/21/2013
Sample Type			
Sample Depth		(11-13) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1
4-Bromophenyl phenyl ether	ug/kg	--	--
4-Chloro-3-methylphenol	ug/kg	--	--
4-Chloroaniline	ug/kg	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--
4-Methylphenol	ug/kg	--	--
4-Nitroaniline	ug/kg	--	--
4-Nitrophenol	ug/kg	--	--
Acenaphthene	ug/kg	6.9 U	6.7 U
Acenaphthylene	ug/kg	6.9 U	6.7 U
Acetophenone	ug/kg	--	--
Anthracene	ug/kg	6.9 U	6.7 U
Atrazine	ug/kg	--	--
Benzaldehyde	ug/kg	--	--
Benzo(a)anthracene	ug/kg	6.9 U	6.7 U
Benzo(a)pyrene	ug/kg	6.9 U	6.7 U
Benzo(b)fluoranthene	ug/kg	6.9 U	6.7 U
Benzo(g,h,i)perylene	ug/kg	6.9 U	6.7 U
Benzo(k)fluoranthene	ug/kg	6.9 U	6.7 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--
Caprolactam	ug/kg	--	--
Carbazole	ug/kg	--	--
Chrysene	ug/kg	6.9 U	6.7 U
Dibenz(a,h)anthracene	ug/kg	6.9 U	6.7 U
Dibenzofuran	ug/kg	--	--
Diethyl phthalate	ug/kg	--	--
Dimethyl phthalate	ug/kg	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--
Fluoranthene	ug/kg	6.9 U	6.7 U
Fluorene	ug/kg	6.9 U	6.7 U

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB275-13	SB276-13
Sample Identification		SO-017360-102113-MR-003	SO-017360-102113-MR-002
Sample Date		10/21/2013	10/21/2013
Sample Type			
Sample Depth		(11-13) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 10.1	AOI 10.1
Hexachlorobenzene	ug/kg	--	--
Hexachlorobutadiene	ug/kg	--	--
Hexachlorocyclopentadiene	ug/kg	--	--
Hexachloroethane	ug/kg	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.9 U	6.7 U
Isophorone	ug/kg	--	--
Naphthalene	ug/kg	6.9 U	6.7 U
Nitrobenzene	ug/kg	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--
N-Nitrosodiphenylamine	ug/kg	--	--
Pentachlorophenol	ug/kg	--	--
Phenanthrene	ug/kg	6.9 U	6.7 U
Phenol	ug/kg	--	--
Pyrene	ug/kg	6.9 U	6.7 U
Metals			
Antimony	ug/kg	--	--
Arsenic	ug/kg	--	--
Barium	ug/kg	--	--
Beryllium	ug/kg	--	--
Cadmium	ug/kg	--	--
Chromium	ug/kg	--	--
Cobalt	ug/kg	--	--
Copper	ug/kg	--	--
Iron	ug/kg	--	--
Lead	ug/kg	--	--
Manganese	ug/kg	--	--
Mercury	ug/kg	--	--
Molybdenum	ug/kg	--	--
Nickel	ug/kg	--	--
Selenium	ug/kg	--	--
Silver	ug/kg	--	--
Sodium	ug/kg	--	--
Thallium	ug/kg	--	--

Soil Sample Analytical Results - AOI 10.1 – Former Power House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB275-13**	**SB276-13**
Sample Identification		**SO-017360-102113-MR-003**	**SO-017360-102113-MR-002**
Sample Date		**10/21/2013**	**10/21/2013**
Sample Type			
Sample Depth		**(11-13) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 10.1**	**AOI 10.1**
Vanadium	ug/kg	--	--
Zinc	ug/kg	--	--
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--
Total PCBs	ug/kg	--	--

Table 3.14.2

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB66-11	SB67-11	SB67-11	SB67-11
Sample Identification		SO-17360-021411-DR-043	SO-17360-021411-DR-044	SO-17360-021411-DR-045	SO-17360-021411-DR-046
Sample Date		2/14/2011	2/14/2011	2/14/2011	2/14/2011
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.2	AOI 10.2	AOI 10.2	AOI 10.2
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	47 U	47 U	46 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	47 U	47 U	46 U	43 U
1,1,2-Trichloroethane	ug/kg	47 U	47 U	46 U	43 U
1,1-Dichloroethane	ug/kg	47 U	47 U	46 U	43 U
1,1-Dichloroethene	ug/kg	47 U	47 U	46 U	43 U
1,2,4-Trichlorobenzene	ug/kg	240 U	230 U	230 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	230 U	230 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	230 U	230 U	220 U
1,2-Dichlorobenzene	ug/kg	94 U	93 U	92 U	86 U
1,2-Dichloroethane	ug/kg	47 U	47 U	46 U	43 U
1,2-Dichloropropane	ug/kg	47 U	47 U	46 U	43 U
1,3-Dichlorobenzene	ug/kg	94 U	93 U	92 U	86 U
1,4-Dichlorobenzene	ug/kg	94 U	93 U	92 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	710 U	700 U	690 U	650 U
2-Hexanone	ug/kg	2400 U	2300 U	2300 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	2300 U	2300 U	2200 U
Acetone	ug/kg	710 U	700 U	690 U	650 U
Benzene	ug/kg	47 U	47 U	46 U	43 U
Bromodichloromethane	ug/kg	94 U	93 U	92 U	86 U
Bromoform	ug/kg	94 U	93 U	92 U	86 U
Bromomethane (Methyl bromide)	ug/kg	240 U	230 U	230 U	220 U
Carbon disulfide	ug/kg	240 U	230 U	230 U	220 U
Carbon tetrachloride	ug/kg	47 U	47 U	46 U	43 U
Chlorobenzene	ug/kg	47 U	47 U	46 U	43 U
Chloroethane	ug/kg	240 U	230 U	230 U	220 U
Chloroform (Trichloromethane)	ug/kg	47 U	47 U	46 U	43 U
Chloromethane (Methyl chloride)	ug/kg	240 U	230 U	230 U	220 U
cis-1,2-Dichloroethene	ug/kg	47 U	47 U	46 U	43 U
cis-1,3-Dichloropropene	ug/kg	47 U	47 U	46 U	43 U
Cyclohexane	ug/kg	1100 U	1100 U	1100 U	1000 U
Dibromochloromethane	ug/kg	47 U	47 U	46 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	94 U	93 U	92 U	86 U
Ethylbenzene	ug/kg	47 U	47 U	46 U	43 U

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB66-11	SB67-11	SB67-11	SB67-11
Sample Identification		SO-17360-021411-DR-043	SO-17360-021411-DR-044	SO-17360-021411-DR-045	SO-17360-021411-DR-046
Sample Date		2/14/2011	2/14/2011	2/14/2011	2/14/2011
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.2	AOI 10.2	AOI 10.2	AOI 10.2
Isopropyl benzene	ug/kg	240 U	230 U	230 U	220 U
Methyl acetate	ug/kg	1100 U	1100 U	1100 U	1000 U
Methyl cyclohexane	ug/kg	1100 U	1100 U	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	240 U	230 U	230 U	220 U
Methylene chloride	ug/kg	240 U	230 U	230 U	220 U
Styrene	ug/kg	47 U	47 U	46 U	43 U
Tetrachloroethene	ug/kg	47 U	47 U	46 U	43 U
Toluene	ug/kg	94 U	93 U	92 U	86 U
trans-1,2-Dichloroethene	ug/kg	47 U	47 U	46 U	43 U
trans-1,3-Dichloropropene	ug/kg	47 U	47 U	46 U	43 U
Trichloroethene	ug/kg	47 U	47 U	46 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	94 U	93 U	92 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	230 U	230 U	220 U
Vinyl chloride	ug/kg	38 U	37 U	37 U	35 U
Xylenes (total)	ug/kg	140 U	140 U	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	1100 U	1100 U	280 U	280 U
2,4,5-Trichlorophenol	ug/kg	1100 U	1100 U	280 U	280 U
2,4,6-Trichlorophenol	ug/kg	1100 U	1100 U	280 U	280 U
2,4-Dichlorophenol	ug/kg	1100 U	1100 U	280 U	280 U
2,4-Dimethylphenol	ug/kg	1100 U	1100 U	280 U	280 U
2,4-Dinitrophenol	ug/kg	R	620 U	160 U	160 U
2,4-Dinitrotoluene	ug/kg	1100 U	1100 U	280 U	280 U
2,6-Dinitrotoluene	ug/kg	1100 U	1100 U	280 U	280 U
2-Chloronaphthalene	ug/kg	1100 U	1100 U	280 U	280 U
2-Chlorophenol	ug/kg	1100 U	1100 U	280 U	280 U
2-Methylnaphthalene	ug/kg	1100 U	1100 U	280 U	280 U
2-Methylphenol	ug/kg	R	1100 U	280 U	280 U
2-Nitroaniline	ug/kg	850 U	830 U	210 U	210 U
2-Nitrophenol	ug/kg	1100 U	1100 U	280 U	280 U
3,3'-Dichlorobenzidine	ug/kg	6800 U	6600 U	1700 U	1700 U
3-Nitroaniline	ug/kg	850 U	830 U	210 U	210 U
4,6-Dinitro-2-methylphenol	ug/kg	R	620 U	160 U	160 U

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB66-11	SB67-11	SB67-11	SB67-11
Sample Identification		SO-17360-021411-DR-043	SO-17360-021411-DR-044	SO-17360-021411-DR-045	SO-17360-021411-DR-046
Sample Date		2/14/2011	2/14/2011	2/14/2011	2/14/2011
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.2	AOI 10.2	AOI 10.2	AOI 10.2
4-Bromophenyl phenyl ether	ug/kg	1100 U	1100 U	280 U	280 U
4-Chloro-3-methylphenol	ug/kg	1100 U	1100 U	280 U	280 U
4-Chloroaniline	ug/kg	640 U	620 U	160 U	160 U
4-Chlorophenyl phenyl ether	ug/kg	1100 U	1100 U	280 U	280 U
4-Methylphenol	ug/kg	1100 U	1100 U	280 U	280 U
4-Nitroaniline	ug/kg	850 U	830 U	210 U	210 U
4-Nitrophenol	ug/kg	R	1400 U	350 U	350 U
Acenaphthene	ug/kg	1100 U	1100 U	280 U	280 U
Acenaphthylene	ug/kg	1100 U	1100 U	280 U	280 U
Acetophenone	ug/kg	1100 U	1100 U	280 U	280 U
Anthracene	ug/kg	1100 U	1100 U	280 U	280 U
Atrazine	ug/kg	170 U	170 U	43 U	42 U
Benzaldehyde	ug/kg	1100 U	1100 U	280 U	280 U
Benzo(a)anthracene	ug/kg	66 J	1100 U	280 U	280 U
Benzo(a)pyrene	ug/kg	50 J	1100 U	280 U	280 U
Benzo(b)fluoranthene	ug/kg	95 J	60 J	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	50 J	1100 U	280 U	280 U
Benzo(k)fluoranthene	ug/kg	1100 U	1100 U	280 U	280 U
Biphenyl (1,1-Biphenyl)	ug/kg	1100 U	1100 U	280 U	280 U
bis(2-Chloroethoxy)methane	ug/kg	1100 U	1100 U	280 U	280 U
bis(2-Chloroethyl)ether	ug/kg	340 U	330 U	86 U	85 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	1100 U	1100 U	49 J	37 J
Butyl benzylphthalate (BBP)	ug/kg	1100 U	1100 U	280 U	280 U
Caprolactam	ug/kg	1100 U	1100 U	280 U	280 U
Carbazole	ug/kg	1100 U	1100 U	280 U	280 U
Chrysene	ug/kg	68 J	1100 U	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	1100 U	1100 U	280 U	280 U
Dibenzofuran	ug/kg	1100 U	1100 U	280 U	280 U
Diethyl phthalate	ug/kg	1100 U	1100 U	280 U	280 U
Dimethyl phthalate	ug/kg	1100 U	1100 U	280 U	280 U
Di-n-butylphthalate (DBP)	ug/kg	1100 U	1100 U	280 U	280 U
Di-n-octyl phthalate (DnOP)	ug/kg	1100 U	1100 U	280 U	280 U
Fluoranthene	ug/kg	120 J	52 J	15 J	280 U
Fluorene	ug/kg	1100 U	1100 U	280 U	280 U
Hexachlorobenzene	ug/kg	1100 U	1100 U	280 U	280 U

Table 3.14.2

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB66-11**	**SB67-11**	**SB67-11**	**SB67-11**
Sample Identification		**SO-17360-021411-DR-043**	**SO-17360-021411-DR-044**	**SO-17360-021411-DR-045**	**SO-17360-021411-DR-046**
Sample Date		**2/14/2011**	**2/14/2011**	**2/14/2011**	**2/14/2011**
Sample Type					**Duplicate**
Sample Depth		**(1-3) ft BGS**	**(1-3) ft BGS**	**(20-22) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 10.2**	**AOI 10.2**	**AOI 10.2**	**AOI 10.2**
Hexachlorobutadiene	ug/kg	170 U	170 U	43 U	42 U
Hexachlorocyclopentadiene	ug/kg	1100 U	1100 U	280 U	280 U
Hexachloroethane	ug/kg	1100 U	1100 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	1100 U	1100 U	280 U	280 U
Isophorone	ug/kg	1100 U	1100 U	280 U	280 U
Naphthalene	ug/kg	1100 U	1100 U	280 U	280 U
Nitrobenzene	ug/kg	1100 U	1100 U	280 U	280 U
N-Nitrosodi-n-propylamine	ug/kg	1100 U	1100 U	280 U	280 U
N-Nitrosodiphenylamine	ug/kg	1100 U	1100 U	280 U	280 U
Pentachlorophenol	ug/kg	640 U	620 U	160 U	160 U
Phenanthrene	ug/kg	42 J	1100 U	31 J	10 J
Phenol	ug/kg	1100 U	1100 U	280 U	280 U
Pyrene	ug/kg	97 J	48 J	18 J	280 U
Metals					
Antimony	ug/kg	55 J	48 J	170 UJ	170 UJ
Arsenic	ug/kg	1700	1800	600	630
Barium	ug/kg	13200	24300	3300	3100
Beryllium	ug/kg	170 U	170 U	170 U	170 U
Cadmium	ug/kg	85 U	83 U	86 U	85 U
Chromium	ug/kg	8800	7000	8100	4900
Cobalt	ug/kg	3000	2300	1100	1300
Copper	ug/kg	22900 J	10000 J	2800 J	2900 J
Lead	ug/kg	11600	12300	1400	1400
Manganese	ug/kg	141000 J	150000 J	51700 J	51900 J
Mercury	ug/kg	42 U	41 U	43 U	42 U
Nickel	ug/kg	10100	5400	3100	3400
Selenium	ug/kg	150 J	140 J	97 J	110 J
Silver	ug/kg	37 J	83 U	86 U	85 U
Thallium	ug/kg	85 U	83 U	86 U	85 U
Vanadium	ug/kg	8300	8000	3800	4700
Zinc	ug/kg	19200	16800	5500	6400
Polychlorinated biphenyl (PCBs)					

Table 3.14.2

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB66-11	SB67-11	SB67-11	SB67-11
Sample Identification		SO-17360-021411-DR-043	SO-17360-021411-DR-044	SO-17360-021411-DR-045	SO-17360-021411-DR-046
Sample Date		2/14/2011	2/14/2011	2/14/2011	2/14/2011
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 10.2	AOI 10.2	AOI 10.2	AOI 10.2
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U	280 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	33 J	18 J	280 U	280 U
Total PCBs	ug/kg	33 J	18 J	0	0

Table 3.14.2

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB68-11**
Sample Identification		**SO-17360-021411-DR-042**
Sample Date		**2/14/2011**
Sample Type		
Sample Depth		**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 10.2**
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	ug/kg	42 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U
1,1,2-Trichloroethane	ug/kg	42 U
1,1-Dichloroethane	ug/kg	42 U
1,1-Dichloroethene	ug/kg	42 U
1,2,4-Trichlorobenzene	ug/kg	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U
1,2-Dichlorobenzene	ug/kg	85 U
1,2-Dichloroethane	ug/kg	42 U
1,2-Dichloropropane	ug/kg	42 U
1,3-Dichlorobenzene	ug/kg	85 U
1,4-Dichlorobenzene	ug/kg	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U
2-Hexanone	ug/kg	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U
Acetone	ug/kg	630 U
Benzene	ug/kg	42 U
Bromodichloromethane	ug/kg	85 U
Bromoform	ug/kg	85 U
Bromomethane (Methyl bromide)	ug/kg	210 U
Carbon disulfide	ug/kg	210 U
Carbon tetrachloride	ug/kg	42 U
Chlorobenzene	ug/kg	42 U
Chloroethane	ug/kg	210 U
Chloroform (Trichloromethane)	ug/kg	42 U
Chloromethane (Methyl chloride)	ug/kg	210 U
cis-1,2-Dichloroethene	ug/kg	42 U
cis-1,3-Dichloropropene	ug/kg	42 U
Cyclohexane	ug/kg	1000 U
Dibromochloromethane	ug/kg	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	85 U
Ethylbenzene	ug/kg	42 U

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB68-11**
Sample Identification		**SO-17360-021411-DR-042**
Sample Date		**2/14/2011**
Sample Type		
Sample Depth		**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 10.2**
Isopropyl benzene	ug/kg	210 U
Methyl acetate	ug/kg	1000 U
Methyl cyclohexane	ug/kg	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U
Methylene chloride	ug/kg	210 U
Styrene	ug/kg	42 U
Tetrachloroethene	ug/kg	42 U
Toluene	ug/kg	85 U
trans-1,2-Dichloroethene	ug/kg	42 U
trans-1,3-Dichloropropene	ug/kg	42 U
Trichloroethene	ug/kg	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U
Vinyl chloride	ug/kg	34 U
Xylenes (total)	ug/kg	130 U
Semi-Volatile Organic Compounds (SVOCs)		
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	1400 U
2,4,5-Trichlorophenol	ug/kg	1400 U
2,4,6-Trichlorophenol	ug/kg	1400 U
2,4-Dichlorophenol	ug/kg	1400 U
2,4-Dimethylphenol	ug/kg	1400 U
2,4-Dinitrophenol	ug/kg	780 U
2,4-Dinitrotoluene	ug/kg	1400 U
2,6-Dinitrotoluene	ug/kg	1400 U
2-Chloronaphthalene	ug/kg	1400 U
2-Chlorophenol	ug/kg	1400 U
2-Methylnaphthalene	ug/kg	36 J
2-Methylphenol	ug/kg	1400 U
2-Nitroaniline	ug/kg	1000 U
2-Nitrophenol	ug/kg	1400 U
3,3'-Dichlorobenzidine	ug/kg	8300 U
3-Nitroaniline	ug/kg	1000 U
4,6-Dinitro-2-methylphenol	ug/kg	780 U

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB68-11**
Sample Identification		**SO-17360-021411-DR-042**
Sample Date		**2/14/2011**
Sample Type		
Sample Depth		**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 10.2**
4-Bromophenyl phenyl ether	ug/kg	1400 U
4-Chloro-3-methylphenol	ug/kg	1400 U
4-Chloroaniline	ug/kg	780 U
4-Chlorophenyl phenyl ether	ug/kg	1400 U
4-Methylphenol	ug/kg	1400 U
4-Nitroaniline	ug/kg	1000 U
4-Nitrophenol	ug/kg	1700 U
Acenaphthene	ug/kg	1400 U
Acenaphthylene	ug/kg	1400 U
Acetophenone	ug/kg	1400 U
Anthracene	ug/kg	37 J
Atrazine	ug/kg	210 U
Benzaldehyde	ug/kg	1400 U
Benzo(a)anthracene	ug/kg	130 J
Benzo(a)pyrene	ug/kg	97 J
Benzo(b)fluoranthene	ug/kg	200 J
Benzo(g,h,i)perylene	ug/kg	1400 U
Benzo(k)fluoranthene	ug/kg	1400 U
Biphenyl (1,1-Biphenyl)	ug/kg	1400 U
bis(2-Chloroethoxy)methane	ug/kg	1400 U
bis(2-Chloroethyl)ether	ug/kg	410 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	1400 U
Butyl benzylphthalate (BBP)	ug/kg	1400 U
Caprolactam	ug/kg	1400 U
Carbazole	ug/kg	1400 U
Chrysene	ug/kg	120 J
Dibenz(a,h)anthracene	ug/kg	1400 U
Dibenzofuran	ug/kg	1400 U
Diethyl phthalate	ug/kg	1400 U
Dimethyl phthalate	ug/kg	1400 U
Di-n-butylphthalate (DBP)	ug/kg	1400 U
Di-n-octyl phthalate (DnOP)	ug/kg	1400 U
Fluoranthene	ug/kg	310 J
Fluorene	ug/kg	1400 U
Hexachlorobenzene	ug/kg	1400 U

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB68-11**
Sample Identification		**SO-17360-021411-DR-042**
Sample Date		**2/14/2011**
Sample Type		
Sample Depth		**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 10.2**
Hexachlorobutadiene	ug/kg	210 U
Hexachlorocyclopentadiene	ug/kg	1400 U
Hexachloroethane	ug/kg	1400 U
Indeno(1,2,3-cd)pyrene	ug/kg	1400 U
Isophorone	ug/kg	1400 U
Naphthalene	ug/kg	1400 U
Nitrobenzene	ug/kg	1400 U
N-Nitrosodi-n-propylamine	ug/kg	1400 U
N-Nitrosodiphenylamine	ug/kg	1400 U
Pentachlorophenol	ug/kg	780 U
Phenanthrene	ug/kg	180 J
Phenol	ug/kg	1400 U
Pyrene	ug/kg	240 J
Metals		
Antimony	ug/kg	370 J
Arsenic	ug/kg	4000
Barium	ug/kg	13900
Beryllium	ug/kg	170 U
Cadmium	ug/kg	83 U
Chromium	ug/kg	10800
Cobalt	ug/kg	3300
Copper	ug/kg	26600 J
Lead	ug/kg	14000
Manganese	ug/kg	188000 J
Mercury	ug/kg	41 U
Nickel	ug/kg	10900
Selenium	ug/kg	170 J
Silver	ug/kg	22 J
Thallium	ug/kg	83 U
Vanadium	ug/kg	8900
Zinc	ug/kg	24200
Polychlorinated biphenyl (PCBs)		

Soil Sample Analytical Results - AOI 10.2 - Former Power House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB68-11**
Sample Identification		**SO-17360-021411-DR-042**
Sample Date		**2/14/2011**
Sample Type		
Sample Depth		**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 10.2**
Aroclor-1016 (PCB-1016)	ug/kg	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U
Aroclor-1260 (PCB-1260)	ug/kg	21 J
Total PCBs	ug/kg	21 J

Table 3.15

Soil Sample Analytical Results - AOI 11 – Former AOF House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB69-11**	**SB69-11**	**SB70-11**	**SB70-11**
Sample Identification		**SO-17360-021411-DR-047**	**SO-17360-021411-DR-048**	**SO-17360-021411-DR-049**	**SO-17360-021411-DR-050**
Sample Date		**2/14/2011**	**2/14/2011**	**2/14/2011**	**2/14/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 11**	**AOI 11**	**AOI 11**	**AOI 11**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	42 U	40 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	39 U	42 U	40 U	43 U
1,1,2-Trichloroethane	ug/kg	39 U	42 U	40 U	43 U
1,1-Dichloroethane	ug/kg	39 U	42 U	40 U	43 U
1,1-Dichloroethene	ug/kg	39 U	42 U	40 U	43 U
1,2,4-Trichlorobenzene	ug/kg	190 U	210 U	200 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	210 U	200 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	210 U	200 U	220 U
1,2-Dichlorobenzene	ug/kg	78 U	84 U	81 U	86 U
1,2-Dichloroethane	ug/kg	39 U	42 U	40 U	43 U
1,2-Dichloropropane	ug/kg	39 U	42 U	40 U	43 U
1,3-Dichlorobenzene	ug/kg	78 U	84 U	81 U	86 U
1,4-Dichlorobenzene	ug/kg	78 U	84 U	81 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	580 U	630 U	610 U	650 U
2-Hexanone	ug/kg	1900 U	2100 U	2000 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	2100 U	2000 U	2200 U
Acetone	ug/kg	580 U	630 U	610 U	650 U
Benzene	ug/kg	39 U	42 U	40 U	43 U
Bromodichloromethane	ug/kg	78 U	84 U	81 U	86 U
Bromoform	ug/kg	78 U	84 U	81 U	86 U
Bromomethane (Methyl bromide)	ug/kg	190 U	210 U	200 U	220 U
Carbon disulfide	ug/kg	190 U	210 U	200 U	220 U
Carbon tetrachloride	ug/kg	39 U	42 U	40 U	43 U
Chlorobenzene	ug/kg	39 U	42 U	40 U	43 U
Chloroethane	ug/kg	190 U	210 U	200 U	220 U
Chloroform (Trichloromethane)	ug/kg	39 U	42 U	40 U	43 U
Chloromethane (Methyl chloride)	ug/kg	190 U	210 U	200 U	220 U
cis-1,2-Dichloroethene	ug/kg	39 U	42 U	40 U	43 U
cis-1,3-Dichloropropene	ug/kg	39 U	42 U	40 U	43 U
Cyclohexane	ug/kg	930 U	1000 U	970 U	1000 U
Dibromochloromethane	ug/kg	39 U	42 U	40 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	84 U	81 U	86 U
Ethylbenzene	ug/kg	39 U	42 U	40 U	43 U

Table 3.15

Soil Sample Analytical Results - AOI 11 – Former AOF House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB69-11**	**SB69-11**	**SB70-11**	**SB70-11**
Sample Identification		**SO-17360-021411-DR-047**	**SO-17360-021411-DR-048**	**SO-17360-021411-DR-049**	**SO-17360-021411-DR-050**
Sample Date		**2/14/2011**	**2/14/2011**	**2/14/2011**	**2/14/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 11**	**AOI 11**	**AOI 11**	**AOI 11**
Isopropyl benzene	ug/kg	190 U	210 U	200 U	220 U
Methyl acetate	ug/kg	38 J	1000 U	94 J	1000 U
Methyl cyclohexane	ug/kg	930 U	1000 U	970 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	210 U	200 U	220 U
Methylene chloride	ug/kg	190 U	210 U	200 U	220 U
Styrene	ug/kg	39 U	42 U	40 U	43 U
Tetrachloroethene	ug/kg	39 U	42 U	40 U	43 U
Toluene	ug/kg	78 U	84 U	81 U	86 U
trans-1,2-Dichloroethene	ug/kg	39 U	42 U	40 U	43 U
trans-1,3-Dichloropropene	ug/kg	39 U	42 U	40 U	43 U
Trichloroethene	ug/kg	39 U	42 U	40 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	84 U	81 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	210 U	200 U	220 U
Vinyl chloride	ug/kg	31 U	34 U	32 U	35 U
Xylenes (total)	ug/kg	120 U	130 U	120 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	1100 U	290 U	1100 U	280 U
Acenaphthene	ug/kg	1100 U	290 U	1100 U	280 U
Acenaphthylene	ug/kg	1100 U	290 U	1100 U	280 U
Anthracene	ug/kg	51 J	290 U	30 J	280 U
Benzo(a)anthracene	ug/kg	210 J	290 U	110 J	280 U
Benzo(a)pyrene	ug/kg	200 J	290 U	110 J	280 U
Benzo(b)fluoranthene	ug/kg	310 J	290 U	170 J	280 U
Benzo(g,h,i)perylene	ug/kg	150 J	290 U	79 J	280 U
Benzo(k)fluoranthene	ug/kg	130 J	290 U	1100 U	280 U
Chrysene	ug/kg	230 J	290 U	110 J	280 U
Dibenz(a,h)anthracene	ug/kg	1100 U	290 U	1100 U	280 U
Fluoranthene	ug/kg	450 J	290 U	220 J	280 U
Fluorene	ug/kg	1100 U	290 U	1100 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	1100 U	290 U	1100 U	280 U
Naphthalene	ug/kg	1100 U	290 U	1100 U	280 U
Phenanthrene	ug/kg	190 J	290 U	110 J	280 U
Pyrene	ug/kg	350 J	290 U	180 J	280 U

Table 3.15

Soil Sample Analytical Results - AOI 11 – Former AOF House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB69-11	SB69-11	SB70-11	SB70-11
Sample Identification		SO-17360-021411-DR-047	SO-17360-021411-DR-048	SO-17360-021411-DR-049	SO-17360-021411-DR-050
Sample Date		2/14/2011	2/14/2011	2/14/2011	2/14/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 11	AOI 11	AOI 11	AOI 11
Metals					
Antimony	ug/kg	100 J	180 UJ	190 J	170 UJ
Arsenic	ug/kg	1800	1900	2000	720
Barium	ug/kg	14800	7600	14600	6700
Beryllium	ug/kg	170 U	180 U	170 U	170 U
Cadmium	ug/kg	83 U	88 U	83 U	84 U
Chromium	ug/kg	4600	4600	**21000[d]**	3500
Cobalt	ug/kg	2000	2000	2700	1100
Copper	ug/kg	8200 J	3500 J	25600 J	1200 J
Lead	ug/kg	10900	2000	13500	1500
Manganese	ug/kg	145000 J	35200 J	133000 J	16500 J
Mercury	ug/kg	41 U	44 U	42 U	42 U
Nickel	ug/kg	4700	4200	13700	2800
Selenium	ug/kg	160 J	130 J	140 J	110 J
Silver	ug/kg	83 U	88 U	150	84 U
Thallium	ug/kg	83 U	88 U	83 U	84 U
Vanadium	ug/kg	6600	8200	9000	4200
Zinc	ug/kg	16600	8100	39800	4200
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	270 U	290 U	270 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	290 U	270 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	290 U	270 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	14 J	290 U	270 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	290 U	270 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	290 U	270 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	36 J	290 U	28 J	280 U
Total PCBs	ug/kg	50 J	0	28 J	0
General Chemistry					
Cyanide (total)	ug/kg	100 U	110 U	100 U	100 U

Table 3.16

Soil Sample Analytical Results - AOI 12 - Former Cooling Tower Basin
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB71-11**	**SB71-11**
Sample Identification		**SO-17360-030411-DR-184**	**SO-17360-030411-DR-185**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(0.5-2.5) ft BGS**	**(15-17) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 12**	**AOI 12**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	45 U	60 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	60 U
1,1,2-Trichloroethane	ug/kg	45 U	60 U
1,1-Dichloroethane	ug/kg	45 U	60 U
1,1-Dichloroethene	ug/kg	45 U	60 U
1,2,4-Trichlorobenzene	ug/kg	220 U	300 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	300 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	300 U
1,2-Dichlorobenzene	ug/kg	90 U	120 U
1,2-Dichloroethane	ug/kg	45 U	60 U
1,2-Dichloropropane	ug/kg	45 U	60 U
1,3-Dichlorobenzene	ug/kg	90 U	120 U
1,4-Dichlorobenzene	ug/kg	90 U	120 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	110 J	900 U
2-Hexanone	ug/kg	2200 U	3000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	3000 U
Acetone	ug/kg	670 U	900 U
Benzene	ug/kg	45 U	60 U
Bromodichloromethane	ug/kg	90 U	120 U
Bromoform	ug/kg	90 U	120 U
Bromomethane (Methyl bromide)	ug/kg	220 U	300 U
Carbon disulfide	ug/kg	220 U	300 U
Carbon tetrachloride	ug/kg	45 U	60 U
Chlorobenzene	ug/kg	45 U	60 U
Chloroethane	ug/kg	220 U	300 U
Chloroform (Trichloromethane)	ug/kg	45 U	60 U
Chloromethane (Methyl chloride)	ug/kg	220 U	300 U
cis-1,2-Dichloroethene	ug/kg	45 U	60 U
cis-1,3-Dichloropropene	ug/kg	45 U	60 U
Cyclohexane	ug/kg	1100 U	1400 U
Dibromochloromethane	ug/kg	45 U	60 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	120 U
Ethylbenzene	ug/kg	45 U	60 U

Table 3.16

Soil Sample Analytical Results - AOI 12 - Former Cooling Tower Basin
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB71-11**	**SB71-11**
Sample Identification		**SO-17360-030411-DR-184**	**SO-17360-030411-DR-185**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(0.5-2.5) ft BGS**	**(15-17) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 12**	**AOI 12**
Isopropyl benzene	ug/kg	220 U	300 U
Methyl acetate	ug/kg	90 J	1400 U
Methyl cyclohexane	ug/kg	1100 U	1400 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	300 U
Methylene chloride	ug/kg	220 U	300 U
Styrene	ug/kg	45 U	60 U
Tetrachloroethene	ug/kg	45 U	60 U
Toluene	ug/kg	90 U	120 U
trans-1,2-Dichloroethene	ug/kg	45 U	60 U
trans-1,3-Dichloropropene	ug/kg	45 U	60 U
Trichloroethene	ug/kg	45 U	60 U
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	120 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	300 U
Vinyl chloride	ug/kg	36 U	48 U
Xylenes (total)	ug/kg	130 U	180 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	1100 U	270 U
Acenaphthene	ug/kg	1100 U	270 U
Acenaphthylene	ug/kg	1100 U	270 U
Anthracene	ug/kg	32 J	270 U
Benzo(a)anthracene	ug/kg	190 J	270 U
Benzo(a)pyrene	ug/kg	200 J	270 U
Benzo(b)fluoranthene	ug/kg	320 J	270 U
Benzo(g,h,i)perylene	ug/kg	200 J	270 U
Benzo(k)fluoranthene	ug/kg	130 J	270 U
Chrysene	ug/kg	220 J	270 U
Dibenz(a,h)anthracene	ug/kg	59 J	270 U
Fluoranthene	ug/kg	280 J	270 U
Fluorene	ug/kg	1100 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	160 J	270 U
Naphthalene	ug/kg	1100 U	270 U
Phenanthrene	ug/kg	120 J	270 U
Pyrene	ug/kg	220 J	270 U

Table 3.16

Soil Sample Analytical Results - AOI 12 - Former Cooling Tower Basin
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB71-11	SB71-11
Sample Identification		SO-17360-030411-DR-184	SO-17360-030411-DR-185
Sample Date		3/4/2011	3/4/2011
Sample Type			
Sample Depth		(0.5-2.5) ft BGS	(15-17) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 12	AOI 12
Metals			
Antimony	ug/kg	1600 J	170 UJ
Arsenic	ug/kg	2300 J	1300 J
Barium	ug/kg	63600	2800
Beryllium	ug/kg	170 U	170 U
Cadmium	ug/kg	1000	83 U
Chromium	ug/kg	14400	4100
Cobalt	ug/kg	5900	1400
Copper	ug/kg	104000	3000
Lead	ug/kg	123000	1600
Manganese	ug/kg	203000 J	50400 J
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	19900	2900
Selenium	ug/kg	160 J	170 UJ
Silver	ug/kg	190	83 U
Thallium	ug/kg	2100 U	83 U
Vanadium	ug/kg	8800	4300
Zinc	ug/kg	120000	4900
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	84 J	270 U
Total PCBs	ug/kg	84 J	0

Table 3.17

Soil Sample Analytical Results - AOI 13 - Former Cooling Water Spray Pond
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB72-11	SB72-11
Sample Identification		SO-17360-030411-DR-186	SO-17360-030411-DR-187
Sample Date		3/4/2011	3/4/2011
Sample Type			
Sample Depth		(0.5-2.5) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 13	AOI 13
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	43 U	50 U
1,1,2,2-Tetrachloroethane	ug/kg	43 U	50 U
1,1,2-Trichloroethane	ug/kg	43 U	50 U
1,1-Dichloroethane	ug/kg	43 U	50 U
1,1-Dichloroethene	ug/kg	43 U	50 U
1,2,4-Trichlorobenzene	ug/kg	220 U	250 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	250 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	250 U
1,2-Dichlorobenzene	ug/kg	86 U	100 U
1,2-Dichloroethane	ug/kg	43 U	50 U
1,2-Dichloropropane	ug/kg	43 U	50 U
1,3-Dichlorobenzene	ug/kg	86 U	100 U
1,4-Dichlorobenzene	ug/kg	86 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	650 U	750 U
2-Hexanone	ug/kg	2200 U	2500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2500 U
Acetone	ug/kg	650 U	750 U
Benzene	ug/kg	43 U	50 U
Bromodichloromethane	ug/kg	86 U	100 U
Bromoform	ug/kg	86 U	100 U
Bromomethane (Methyl bromide)	ug/kg	220 U	250 U
Carbon disulfide	ug/kg	220 U	250 U
Carbon tetrachloride	ug/kg	43 U	50 U
Chlorobenzene	ug/kg	43 U	50 U
Chloroethane	ug/kg	220 U	250 U
Chloroform (Trichloromethane)	ug/kg	43 U	50 U
Chloromethane (Methyl chloride)	ug/kg	220 U	250 U
cis-1,2-Dichloroethene	ug/kg	43 U	50 U
cis-1,3-Dichloropropene	ug/kg	43 U	50 U
Cyclohexane	ug/kg	1000 U	1200 U
Dibromochloromethane	ug/kg	43 U	50 U
Dichlorodifluoromethane (CFC-12)	ug/kg	86 U	100 U
Ethylbenzene	ug/kg	43 U	50 U

Soil Sample Analytical Results - AOI 13 - Former Cooling Water Spray Pond
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB72-11**	**SB72-11**
Sample Identification		**SO-17360-030411-DR-186**	**SO-17360-030411-DR-187**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(0.5-2.5) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 13**	**AOI 13**
Isopropyl benzene	ug/kg	220 U	250 U
Methyl acetate	ug/kg	1000 U	1200 U
Methyl cyclohexane	ug/kg	1000 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	250 U
Methylene chloride	ug/kg	220 U	250 U
Styrene	ug/kg	43 U	50 U
Tetrachloroethene	ug/kg	43 U	50 U
Toluene	ug/kg	86 U	100 U
trans-1,2-Dichloroethene	ug/kg	43 U	50 U
trans-1,3-Dichloropropene	ug/kg	43 U	50 U
Trichloroethene	ug/kg	43 U	50 U
Trichlorofluoromethane (CFC-11)	ug/kg	86 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	250 U
Vinyl chloride	ug/kg	35 U	40 U
Xylenes (total)	ug/kg	130 U	150 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	300 U	280 U
Acenaphthene	ug/kg	300 U	280 U
Acenaphthylene	ug/kg	300 U	280 U
Anthracene	ug/kg	300 U	280 U
Benzo(a)anthracene	ug/kg	300 U	280 U
Benzo(a)pyrene	ug/kg	300 U	280 U
Benzo(b)fluoranthene	ug/kg	12 J	280 U
Benzo(g,h,i)perylene	ug/kg	300 U	280 U
Benzo(k)fluoranthene	ug/kg	300 U	280 U
Chrysene	ug/kg	9.1 J	280 U
Dibenz(a,h)anthracene	ug/kg	300 U	280 U
Fluoranthene	ug/kg	21 J	280 U
Fluorene	ug/kg	300 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	300 U	280 U
Naphthalene	ug/kg	300 U	280 U
Phenanthrene	ug/kg	28 J	280 U
Pyrene	ug/kg	15 J	280 U

Table 3.17

Soil Sample Analytical Results - AOI 13 - Former Cooling Water Spray Pond
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB72-11**	**SB72-11**
Sample Identification		**SO-17360-030411-DR-186**	**SO-17360-030411-DR-187**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(0.5-2.5) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 13**	**AOI 13**
Metals			
Antimony	ug/kg	180 UJ	170 UJ
Arsenic	ug/kg	1500 J	450 J
Barium	ug/kg	11400	3300
Beryllium	ug/kg	180 U	170 U
Cadmium	ug/kg	90 U	85 U
Chromium	ug/kg	5900	3400
Cobalt	ug/kg	2000	1300
Copper	ug/kg	4400	2500
Lead	ug/kg	3200	1200
Manganese	ug/kg	117000 J	44600 J
Mercury	ug/kg	45 U	43 U
Nickel	ug/kg	4200	3100
Selenium	ug/kg	130 J	170 UJ
Silver	ug/kg	90 U	85 U
Thallium	ug/kg	90 U	85 U
Vanadium	ug/kg	7200	3700
Zinc	ug/kg	9900	5700
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	300 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	300 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	300 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	300 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	300 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	300 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	300 U	280 U
Total PCBs	ug/kg	0	0

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB73-11**	**SB73-11**	**SB73-11**	**SB74-11**
Sample Identification		**SO-17360-021511-DR-051**	**SO-17360-021511-DR-052**	**SO-17360-021511-DR-053**	**SO-17360-021511-DR-054**
Sample Date		**2/15/2011**	**2/15/2011**	**2/15/2011**	**2/15/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(12-14) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**	**AOI 14**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	47 U	R	43 U	51 U
1,1,2,2-Tetrachloroethane	ug/kg	47 U	R	43 U	51 U
1,1,2-Trichloroethane	ug/kg	47 U	R	43 U	51 U
1,1-Dichloroethane	ug/kg	47 U	R	43 U	51 U
1,1-Dichloroethene	ug/kg	47 U	R	43 U	51 U
1,2,4-Trichlorobenzene	ug/kg	240 U	R	220 U	260 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	R	220 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	R	220 U	260 U
1,2-Dichlorobenzene	ug/kg	94 U	R	86 U	100 U
1,2-Dichloroethane	ug/kg	47 U	R	43 U	51 U
1,2-Dichloropropane	ug/kg	47 U	R	43 U	51 U
1,3-Dichlorobenzene	ug/kg	94 U	R	86 U	100 U
1,4-Dichlorobenzene	ug/kg	94 U	R	86 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	710 U	R	650 U	770 U
2-Hexanone	ug/kg	2400 U	R	2200 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	R	2200 U	2600 U
Acetone	ug/kg	710 U	R	650 U	770 U
Benzene	ug/kg	47 U	R	43 U	51 U
Bromodichloromethane	ug/kg	94 U	R	86 U	100 U
Bromoform	ug/kg	94 U	R	86 U	100 U
Bromomethane (Methyl bromide)	ug/kg	240 U	R	220 U	260 U
Carbon disulfide	ug/kg	240 U	R	220 U	260 U
Carbon tetrachloride	ug/kg	47 U	R	43 U	51 U
Chlorobenzene	ug/kg	47 U	R	43 U	51 U
Chloroethane	ug/kg	240 U	R	220 U	260 U
Chloroform (Trichloromethane)	ug/kg	47 U	R	43 U	51 U
Chloromethane (Methyl chloride)	ug/kg	240 U	R	220 U	260 U
cis-1,2-Dichloroethene	ug/kg	47 U	R	43 U	51 U
cis-1,3-Dichloropropene	ug/kg	47 U	R	43 U	51 U
Cyclohexane	ug/kg	1100 U	R	1000 U	1200 U
Dibromochloromethane	ug/kg	47 U	R	43 U	51 U
Dichlorodifluoromethane (CFC-12)	ug/kg	94 U	R	86 U	100 U
Ethylbenzene	ug/kg	47 U	R	43 U	51 U

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB73-11	SB73-11	SB73-11	SB74-11
Sample Identification		SO-17360-021511-DR-051	SO-17360-021511-DR-052	SO-17360-021511-DR-053	SO-17360-021511-DR-054
Sample Date		2/15/2011	2/15/2011	2/15/2011	2/15/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(12-14) ft BGS	(20-22) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 14	AOI 14	AOI 14	AOI 14
Isopropyl benzene	ug/kg	240 U	R	220 U	260 U
Methyl acetate	ug/kg	36 J	R	1000 U	1200 U
Methyl cyclohexane	ug/kg	1100 U	R	1000 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	240 U	R	220 U	260 U
Methylene chloride	ug/kg	240 U	R	220 U	260 U
Styrene	ug/kg	47 U	R	43 U	51 U
Tetrachloroethene	ug/kg	47 U	R	43 U	51 U
Toluene	ug/kg	94 U	R	86 U	100 U
trans-1,2-Dichloroethene	ug/kg	47 U	R	43 U	51 U
trans-1,3-Dichloropropene	ug/kg	47 U	R	43 U	51 U
Trichloroethene	ug/kg	47 U	R	43 U	51 U
Trichlorofluoromethane (CFC-11)	ug/kg	94 U	R	86 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	R	220 U	260 U
Vinyl chloride	ug/kg	38 U	R	35 U	41 U
Xylenes (total)	ug/kg	140 U	R	130 U	150 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	11 J	88 J	280 U	270 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB73-11**	**SB73-11**	**SB73-11**	**SB74-11**
Sample Identification		**SO-17360-021511-DR-051**	**SO-17360-021511-DR-052**	**SO-17360-021511-DR-053**	**SO-17360-021511-DR-054**
Sample Date		**2/15/2011**	**2/15/2011**	**2/15/2011**	**2/15/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(12-14) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**	**AOI 14**
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	270 U	1400 U	280 U	270 U
Acenaphthylene	ug/kg	270 U	1400 U	280 U	270 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	9.3 J	1400 U	280 U	9.4 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	78 J	97 J	280 U	53 J
Benzo(a)pyrene	ug/kg	69 J	45 J	280 U	53 J
Benzo(b)fluoranthene	ug/kg	110 J	86 J	280 U	77 J
Benzo(g,h,i)perylene	ug/kg	66 J	1400 U	280 U	50 J
Benzo(k)fluoranthene	ug/kg	29 J	1400 U	280 U	23 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	65 J	100 J	280 U	52 J
Dibenz(a,h)anthracene	ug/kg	270 U	1400 U	280 U	270 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	120 J	110 J	280 U	91 J
Fluorene	ug/kg	270 U	1400 U	280 U	270 U
Hexachlorobenzene	ug/kg	--	--	--	--

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB73-11**	**SB73-11**	**SB73-11**	**SB74-11**
Sample Identification		**SO-17360-021511-DR-051**	**SO-17360-021511-DR-052**	**SO-17360-021511-DR-053**	**SO-17360-021511-DR-054**
Sample Date		**2/15/2011**	**2/15/2011**	**2/15/2011**	**2/15/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(12-14) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**	**AOI 14**
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.6 J	1400 U	280 U	39 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	7.1 J	66 J	280 U	270 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	45 J	110 J	280 U	40 J
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	100 J	120 J	280 U	75 J
Metals					
Antimony	ug/kg	51 J	290 J	170 UJ	25 J
Arsenic	ug/kg	1700	1500	750	1300
Barium	ug/kg	10900	27300	11000	14500
Beryllium	ug/kg	170 U	210 U	170 U	160 U
Cadmium	ug/kg	83 U	140	86 U	82 U
Chromium	ug/kg	6000	12300	6500	12400
Cobalt	ug/kg	2400	1000	1500	2000
Copper	ug/kg	21100 J	5100 J	930 J	3500 J
Lead	ug/kg	9700	89000	2700	30700
Manganese	ug/kg	116000 J	127000 J	25300 J	119000 J
Mercury	ug/kg	41 U	54 U	43 U	41 U
Nickel	ug/kg	7000	7900	3600	3700
Selenium	ug/kg	130 J	290 J	170 UJ	150 J
Silver	ug/kg	20 J	110 U	86 U	82 U
Thallium	ug/kg	83 U	110 U	86 U	82 U
Vanadium	ug/kg	7600	31400	7500	6000
Zinc	ug/kg	16500	12800	7500	9200
Polychlorinated biphenyl (PCBs)					

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB73-11	SB73-11	SB73-11	SB74-11
Sample Identification		SO-17360-021511-DR-051	SO-17360-021511-DR-052	SO-17360-021511-DR-053	SO-17360-021511-DR-054
Sample Date		2/15/2011	2/15/2011	2/15/2011	2/15/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(12-14) ft BGS	(20-22) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 14	AOI 14	AOI 14	AOI 14
Aroclor-1016 (PCB-1016)	ug/kg	270 U	350 U	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	350 U	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	350 U	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	350 U	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	350 U	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	350 U	280 U	43 J
Aroclor-1260 (PCB-1260)	ug/kg	120 J	350 U	280 U	270 U
Total PCBs	ug/kg	120 J	0	0	43 J

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB74-11	SB254-13	SB254-13
Sample Identification		SO-17360-021511-DR-055	SO-017360-082113-MR-113	SO-017360-082113-MR-114
Sample Date		2/15/2011	8/21/2013	8/21/2013
Sample Type				
Sample Depth		(12-14) ft BGS	(9-9.75) ft BGS	(9.75-11) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 14	AOI 14	AOI 14
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	R	73 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	R	73 U	37 U
1,1,2-Trichloroethane	ug/kg	R	73 U	37 U
1,1-Dichloroethane	ug/kg	R	73 U	37 U
1,1-Dichloroethene	ug/kg	R	73 U	37 U
1,2,4-Trichlorobenzene	ug/kg	R	73 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	R	73 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	R	73 U	37 U
1,2-Dichlorobenzene	ug/kg	R	73 U	37 U
1,2-Dichloroethane	ug/kg	R	73 U	37 U
1,2-Dichloropropane	ug/kg	R	73 U	37 U
1,3-Dichlorobenzene	ug/kg	R	73 U	37 U
1,4-Dichlorobenzene	ug/kg	R	73 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	R	480 U	250 U
2-Hexanone	ug/kg	R	73 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	R	73 U	37 U
Acetone	ug/kg	R	240 U	120 U
Benzene	ug/kg	R	73 U	37 U
Bromodichloromethane	ug/kg	R	73 U	37 U
Bromoform	ug/kg	R	73 U	37 U
Bromomethane (Methyl bromide)	ug/kg	R	180 UJ	93 UJ
Carbon disulfide	ug/kg	R	73 U	37 U
Carbon tetrachloride	ug/kg	R	73 U	37 U
Chlorobenzene	ug/kg	R	73 U	37 U
Chloroethane	ug/kg	R	240 U	120 U
Chloroform (Trichloromethane)	ug/kg	R	73 U	37 U
Chloromethane (Methyl chloride)	ug/kg	R	240 U	120 U
cis-1,2-Dichloroethene	ug/kg	R	73 U	37 U
cis-1,3-Dichloropropene	ug/kg	R	73 U	37 U
Cyclohexane	ug/kg	R	73 U	37 U
Dibromochloromethane	ug/kg	R	73 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	R	73 U	37 U
Ethylbenzene	ug/kg	R	73 U	37 U

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB74-11**	**SB254-13**	**SB254-13**
Sample Identification		**SO-17360-021511-DR-055**	**SO-017360-082113-MR-113**	**SO-017360-082113-MR-114**
Sample Date		**2/15/2011**	**8/21/2013**	**8/21/2013**
Sample Type				
Sample Depth		**(12-14) ft BGS**	**(9-9.75) ft BGS**	**(9.75-11) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**
Isopropyl benzene	ug/kg	R	73 U	37 U
Methyl acetate	ug/kg	R	480 U	250 U
Methyl cyclohexane	ug/kg	R	73 U	37 U
Methyl tert butyl ether (MTBE)	ug/kg	R	73 U	37 U
Methylene chloride	ug/kg	R	73 U	37 U
Styrene	ug/kg	R	73 U	37 U
Tetrachloroethene	ug/kg	R	73 U	37 U
Toluene	ug/kg	R	73 U	37 U
trans-1,2-Dichloroethene	ug/kg	R	73 U	37 U
trans-1,3-Dichloropropene	ug/kg	R	73 U	37 U
Trichloroethene	ug/kg	R	73 U	37 U
Trichlorofluoromethane (CFC-11)	ug/kg	R	73 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	R	73 U	37 U
Vinyl chloride	ug/kg	R	73 U	37 U
Xylenes (total)	ug/kg	R	220 U	110 U
Semi-Volatile Organic Compounds (SVOCs)				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	310 U	180 U
2,4,5-Trichlorophenol	ug/kg	--	310 U	180 U
2,4,6-Trichlorophenol	ug/kg	--	310 U	180 U
2,4-Dichlorophenol	ug/kg	--	310 U	180 U
2,4-Dimethylphenol	ug/kg	--	630 U	370 U
2,4-Dinitrophenol	ug/kg	--	1300 U	740 U
2,4-Dinitrotoluene	ug/kg	--	310 U	180 U
2,6-Dinitrotoluene	ug/kg	--	310 U	180 U
2-Chloronaphthalene	ug/kg	--	150 U	90 U
2-Chlorophenol	ug/kg	--	310 U	180 U
2-Methylnaphthalene	ug/kg	24000 U	150 U	51 J
2-Methylphenol	ug/kg	--	310 U	180 U
2-Nitroaniline	ug/kg	--	1300 U	740 U
2-Nitrophenol	ug/kg	--	310 U	180 U
3,3'-Dichlorobenzidine	ug/kg	--	1300 U	740 U
3-Nitroaniline	ug/kg	--	1300 U	740 U
4,6-Dinitro-2-methylphenol	ug/kg	--	630 U	370 U

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB74-11**	**SB254-13**	**SB254-13**
Sample Identification		**SO-17360-021511-DR-055**	**SO-017360-082113-MR-113**	**SO-017360-082113-MR-114**
Sample Date		**2/15/2011**	**8/21/2013**	**8/21/2013**
Sample Type				
Sample Depth		**(12-14) ft BGS**	**(9-9.75) ft BGS**	**(9.75-11) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**
4-Bromophenyl phenyl ether	ug/kg	--	310 U	180 U
4-Chloro-3-methylphenol	ug/kg	--	310 U	180 U
4-Chloroaniline	ug/kg	--	1300 U	740 U
4-Chlorophenyl phenyl ether	ug/kg	--	310 U	180 U
4-Methylphenol	ug/kg	--	310 U	180 U
4-Nitroaniline	ug/kg	--	1300 U	740 U
4-Nitrophenol	ug/kg	--	1300 U	740 U
Acenaphthene	ug/kg	24000 U	58 U	52
Acenaphthylene	ug/kg	24000 U	58 U	120
Acetophenone	ug/kg	--	630 U	370 U
Anthracene	ug/kg	24000 U	58 U	160
Atrazine	ug/kg	--	630 U	370 U
Benzaldehyde	ug/kg	--	630 U	370 U
Benzo(a)anthracene	ug/kg	24000 U	58 U	820
Benzo(a)pyrene	ug/kg	24000 U	58 U	670
Benzo(b)fluoranthene	ug/kg	24000 U	58 U	850
Benzo(g,h,i)perylene	ug/kg	24000 U	58 U	370
Benzo(k)fluoranthene	ug/kg	24000 U	58 U	300
Biphenyl (1,1-Biphenyl)	ug/kg	--	630 U	370 U
bis(2-Chloroethoxy)methane	ug/kg	--	310 U	180 U
bis(2-Chloroethyl)ether	ug/kg	--	310 U	180 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	630 U	370 U
Butyl benzylphthalate (BBP)	ug/kg	--	310 U	180 U
Caprolactam	ug/kg	--	630 U	370 U
Carbazole	ug/kg	--	310 U	55 J
Chrysene	ug/kg	24000 U	58 U	620
Dibenz(a,h)anthracene	ug/kg	24000 U	58 U	150
Dibenzofuran	ug/kg	--	310 U	180 U
Diethyl phthalate	ug/kg	--	630 U	370 U
Dimethyl phthalate	ug/kg	--	630 U	370 U
Di-n-butylphthalate (DBP)	ug/kg	--	630 U	68 J
Di-n-octyl phthalate (DnOP)	ug/kg	--	310 U	180 U
Fluoranthene	ug/kg	24000 U	100	1100 J
Fluorene	ug/kg	24000 U	58 U	32 J
Hexachlorobenzene	ug/kg	--	310 U	180 U

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB74-11**	**SB254-13**	**SB254-13**
Sample Identification		**SO-17360-021511-DR-055**	**SO-017360-082113-MR-113**	**SO-017360-082113-MR-114**
Sample Date		**2/15/2011**	**8/21/2013**	**8/21/2013**
Sample Type				
Sample Depth		**(12-14) ft BGS**	**(9-9.75) ft BGS**	**(9.75-11) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 14**	**AOI 14**	**AOI 14**
Hexachlorobutadiene	ug/kg	--	310 U	180 U
Hexachlorocyclopentadiene	ug/kg	--	630 U	370 U
Hexachloroethane	ug/kg	--	310 U	180 U
Indeno(1,2,3-cd)pyrene	ug/kg	24000 U	58 U	510
Isophorone	ug/kg	--	310 U	180 U
Naphthalene	ug/kg	24000 U	58 U	65
Nitrobenzene	ug/kg	--	55 J	180 U
N-Nitrosodi-n-propylamine	ug/kg	--	310 U	180 U
N-Nitrosodiphenylamine	ug/kg	--	310 U	180 U
Pentachlorophenol	ug/kg	--	630 U	370 U
Phenanthrene	ug/kg	24000 U	58 U	130
Phenol	ug/kg	--	310 U	180 U
Pyrene	ug/kg	24000 U	47 J	1100
Metals				
Antimony	ug/kg	90 J	--	--
Arsenic	ug/kg	1000	--	--
Barium	ug/kg	1300 J	--	--
Beryllium	ug/kg	270 J	--	--
Cadmium	ug/kg	150 U	--	--
Chromium	ug/kg	2200 U	--	--
Cobalt	ug/kg	760 U	--	--
Copper	ug/kg	1500 UJ	--	--
Lead	ug/kg	390 J	--	--
Manganese	ug/kg	4400 J	--	--
Mercury	ug/kg	74 U	--	--
Nickel	ug/kg	5400	--	--
Selenium	ug/kg	370 J	--	--
Silver	ug/kg	150 U	--	--
Thallium	ug/kg	150 U	--	--
Vanadium	ug/kg	16300	--	--
Zinc	ug/kg	1100 J	--	--
Polychlorinated biphenyl (PCBs)				

Table 3.18

Soil Sample Analytical Results - AOI 14 - Former Sludge Bed
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB74-11	SB254-13	SB254-13
Sample Identification		SO-17360-021511-DR-055	SO-017360-082113-MR-113	SO-017360-082113-MR-114
Sample Date		2/15/2011	8/21/2013	8/21/2013
Sample Type				
Sample Depth		(12-14) ft BGS	(9-9.75) ft BGS	(9.75-11) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 14	AOI 14	AOI 14
Aroclor-1016 (PCB-1016)	ug/kg	490 U	--	--
Aroclor-1221 (PCB-1221)	ug/kg	490 U	--	--
Aroclor-1232 (PCB-1232)	ug/kg	490 U	--	--
Aroclor-1242 (PCB-1242)	ug/kg	490 U	--	--
Aroclor-1248 (PCB-1248)	ug/kg	490 U	--	--
Aroclor-1254 (PCB-1254)	ug/kg	490 U	--	--
Aroclor-1260 (PCB-1260)	ug/kg	490 U	--	--
Total PCBs	ug/kg	0	--	--

Table 3.19.1

Soil Sample Analytical Results - AOI 15.1 – Former Main Manufacturing Building Balers
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB75-11	SB264-13	SB264-13	SB264-13
Sample Identification		SO-17360-021711-DR-074	SO-17360-082213-MR-154	SO-17360-082213-MR-155	SO-17360-082213-MR-156
Sample Date		2/17/2011	8/22/2013	8/22/2013	8/22/2013
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(6-7) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.1	AOI 15.1	AOI 15.1	AOI 15.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	46 U	32 U	37 U	31 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	32 U	37 U	31 U
1,1,2-Trichloroethane	ug/kg	46 U	32 U	37 U	31 U
1,1-Dichloroethane	ug/kg	46 U	32 U	37 U	31 U
1,1-Dichloroethene	ug/kg	46 U	32 U	37 U	31 U
1,2,4-Trichlorobenzene	ug/kg	230 U	32 U	37 U	31 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	32 U	37 U	31 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	32 U	37 U	31 U
1,2-Dichlorobenzene	ug/kg	92 U	32 U	37 U	31 U
1,2-Dichloroethane	ug/kg	46 U	32 U	37 U	31 U
1,2-Dichloropropane	ug/kg	46 U	32 U	37 U	31 U
1,3-Dichlorobenzene	ug/kg	92 U	32 U	37 U	31 U
1,4-Dichlorobenzene	ug/kg	92 U	32 U	37 U	31 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	690 U	210 U	250 U	210 U
2-Hexanone	ug/kg	2300 U	32 U	37 U	31 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	32 U	37 U	31 U
Acetone	ug/kg	690 U	110 U	120 U	100 U
Benzene	ug/kg	46 U	32 U	37 U	31 U
Bromodichloromethane	ug/kg	92 U	32 U	37 U	31 U
Bromoform	ug/kg	92 U	32 U	37 U	31 U
Bromomethane (Methyl bromide)	ug/kg	230 U	80 UJ	92 UJ	77 UJ
Carbon disulfide	ug/kg	230 U	32 U	37 U	31 U
Carbon tetrachloride	ug/kg	46 U	32 U	37 U	31 U
Chlorobenzene	ug/kg	46 U	32 U	37 U	31 U
Chloroethane	ug/kg	230 U	110 U	120 U	100 U
Chloroform (Trichloromethane)	ug/kg	46 U	32 U	37 U	31 U
Chloromethane (Methyl chloride)	ug/kg	230 U	110 U	120 U	100 U
cis-1,2-Dichloroethene	ug/kg	46 U	32 U	37 U	31 U
cis-1,3-Dichloropropene	ug/kg	46 U	32 U	37 U	31 U
Cyclohexane	ug/kg	1100 U	32 U	37 U	31 U
Dibromochloromethane	ug/kg	46 U	32 U	37 U	31 U
Dichlorodifluoromethane (CFC-12)	ug/kg	92 U	32 U	37 U	31 U
Ethylbenzene	ug/kg	46 U	32 U	37 U	31 U

Soil Sample Analytical Results - AOI 15.1 – Former Main Manufacturing Building Balers
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB75-11**	**SB264-13**	**SB264-13**	**SB264-13**
Sample Identification		**SO-17360-021711-DR-074**	**SO-17360-082213-MR-154**	**SO-17360-082213-MR-155**	**SO-17360-082213-MR-156**
Sample Date		**2/17/2011**	**8/22/2013**	**8/22/2013**	**8/22/2013**
Sample Type					**Duplicate**
Sample Depth		**(1-3) ft BGS**	**(6-7) ft BGS**	**(20-22) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 15.1**	**AOI 15.1**	**AOI 15.1**	**AOI 15.1**
Isopropyl benzene	ug/kg	230 U	32 U	37 U	31 U
Methyl acetate	ug/kg	300 J	210 U	250 U	210 U
Methyl cyclohexane	ug/kg	1100 U	32 U	37 U	31 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	32 U	37 U	31 U
Methylene chloride	ug/kg	230 U	32 U	37 U	31 U
Styrene	ug/kg	46 U	32 U	37 U	31 U
Tetrachloroethene	ug/kg	46 U	32 U	37 U	31 U
Toluene	ug/kg	92 U	32 U	37 U	31 U
trans-1,2-Dichloroethene	ug/kg	46 U	32 U	37 U	31 U
trans-1,3-Dichloropropene	ug/kg	46 U	32 U	37 U	31 U
Trichloroethene	ug/kg	46 U	32 U	37 U	31 U
Trichlorofluoromethane (CFC-11)	ug/kg	92 U	32 U	37 U	31 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	32 U	37 U	31 U
Vinyl chloride	ug/kg	37 U	32 U	37 U	31 U
Xylenes (total)	ug/kg	140 U	97 U	110 U	93 U
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	60 J	84 U	82 U	81 U
Acenaphthene	ug/kg	100 J	31 U	31 U	30 U
Acenaphthylene	ug/kg	290 U	31 U	31 U	30 U
Anthracene	ug/kg	280 J	44	31 U	30 U
Benzo(a)anthracene	ug/kg	450	81	31 U	30 U
Benzo(a)pyrene	ug/kg	390	120	31 U	30 U
Benzo(b)fluoranthene	ug/kg	460	150	31 U	30 U
Benzo(g,h,i)perylene	ug/kg	260 J	130	31 U	30 U
Benzo(k)fluoranthene	ug/kg	210 J	72	31 U	30 U
Chrysene	ug/kg	380	78	31 U	30 U
Dibenz(a,h)anthracene	ug/kg	59 J	76	31 U	30 U
Fluoranthene	ug/kg	1300	150	31 U	30 U
Fluorene	ug/kg	130 J	31 U	31 U	30 U
Indeno(1,2,3-cd)pyrene	ug/kg	210 J	120	31 U	30 U
Naphthalene	ug/kg	140 J	31 U	31 U	30 U
Phenanthrene	ug/kg	1100	61	31 U	30 U
Pyrene	ug/kg	950	140	31 U	30 U

Table 3.19.1

Soil Sample Analytical Results - AOI 15.1 – Former Main Manufacturing Building Balers
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB75-11	SB264-13	SB264-13	SB264-13
Sample Identification		SO-17360-021711-DR-074	SO-17360-082213-MR-154	SO-17360-082213-MR-155	SO-17360-082213-MR-156
Sample Date		2/17/2011	8/22/2013	8/22/2013	8/22/2013
Sample Type					Duplicate
Sample Depth		(1-3) ft BGS	(6-7) ft BGS	(20-22) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.1	AOI 15.1	AOI 15.1	AOI 15.1
Metals					
Antimony	ug/kg	40 J	360 U	300 U	300 U
Arsenic	ug/kg	2500	1300	2000	2000
Barium	ug/kg	41900	15000	6300	6300
Beryllium	ug/kg	180 U	85 J	58 J	58 J
Cadmium	ug/kg	88 U	150 U	120 U	120 U
Chromium	ug/kg	9300	4000	5600	5600
Cobalt	ug/kg	4800	1700	2200	2200
Copper	ug/kg	10200 J	4100	6500	6500
Iron	ug/kg	--	4200000	4500000	5400000
Lead	ug/kg	7200	5500	2600	2800
Manganese	ug/kg	411000 J	130000	130000	180000
Mercury	ug/kg	18 J	9.6 J	3.5 J	3.7 J
Molybdenum	ug/kg	--	360 U	300 U	290 J
Nickel	ug/kg	7800	3600	4400	5500
Selenium	ug/kg	290	360 U	300 U	270 J
Silver	ug/kg	88 U	360 U	300 U	300 U
Thallium	ug/kg	88 U	41 J	70 J	1500 U
Vanadium	ug/kg	16900	7200	7900	7900
Zinc	ug/kg	20800	9800	7300	11000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	330 U	330 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	330 U	330 U	320 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB78-11	SB78-11	SB79-11	SB79-11
Sample Identification		SO-17360-030211-DR-155	SO-17360-030211-DR-156	SO-17360-030211-DR-153	SO-17360-030211-DR-154
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	53 U	45 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	53 U	45 U	44 U
1,1,2-Trichloroethane	ug/kg	41 U	53 U	45 U	44 U
1,1-Dichloroethane	ug/kg	41 U	53 U	45 U	44 U
1,1-Dichloroethene	ug/kg	41 U	53 U	45 U	44 U
1,2,4-Trichlorobenzene	ug/kg	210 U	260 U	230 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	260 U	230 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	260 U	230 U	220 U
1,2-Dichlorobenzene	ug/kg	83 U	110 U	91 U	88 U
1,2-Dichloroethane	ug/kg	41 U	53 U	45 U	44 U
1,2-Dichloropropane	ug/kg	41 U	53 U	45 U	44 U
1,3-Dichlorobenzene	ug/kg	83 U	110 U	91 U	88 U
1,4-Dichlorobenzene	ug/kg	83 U	110 U	91 U	88 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	620 U	790 U	680 U	660 U
2-Hexanone	ug/kg	2100 U	2600 U	2300 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2600 U	2300 U	2200 U
Acetone	ug/kg	620 U	790 U	680 U	660 U
Benzene	ug/kg	41 U	53 U	45 U	44 U
Bromodichloromethane	ug/kg	83 U	110 U	91 U	88 U
Bromoform	ug/kg	83 U	110 U	91 U	88 U
Bromomethane (Methyl bromide)	ug/kg	210 U	260 U	230 U	220 U
Carbon disulfide	ug/kg	210 U	260 U	230 U	220 U
Carbon tetrachloride	ug/kg	41 U	53 U	45 U	44 U
Chlorobenzene	ug/kg	41 U	53 U	45 U	44 U
Chloroethane	ug/kg	210 U	260 U	230 U	220 U
Chloroform (Trichloromethane)	ug/kg	41 U	53 U	45 U	44 U
Chloromethane (Methyl chloride)	ug/kg	210 U	260 U	230 U	220 U
cis-1,2-Dichloroethene	ug/kg	41 U	53 U	45 U	44 U
cis-1,3-Dichloropropene	ug/kg	41 U	53 U	45 U	44 U
Cyclohexane	ug/kg	990 U	1300 U	1100 U	1100 U
Dibromochloromethane	ug/kg	41 U	53 U	45 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	83 U	110 U	91 U	88 U
Ethylbenzene	ug/kg	41 U	53 U	45 U	44 U

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB78-11**	**SB78-11**	**SB79-11**	**SB79-11**
Sample Identification		**SO-17360-030211-DR-155**	**SO-17360-030211-DR-156**	**SO-17360-030211-DR-153**	**SO-17360-030211-DR-154**
Sample Date		**3/2/2011**	**3/2/2011**	**3/2/2011**	**3/2/2011**
Sample Type					
Sample Depth		**(1-3) ft BGS**	**(16-18) ft BGS**	**(1-3) ft BGS**	**(16.5-18.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**
Isopropyl benzene	ug/kg	210 U	260 U	230 U	220 U
Methyl acetate	ug/kg	170 J	1300 U	1100 U	1100 U
Methyl cyclohexane	ug/kg	990 U	1300 U	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	260 U	230 U	220 U
Methylene chloride	ug/kg	210 U	260 U	**260[bc]**	**150 J[bc]**
Styrene	ug/kg	41 U	53 U	45 U	44 U
Tetrachloroethene	ug/kg	41 U	69	45 U	44 U
Toluene	ug/kg	83 U	110 U	91 U	88 U
trans-1,2-Dichloroethene	ug/kg	41 U	53 U	45 U	44 U
trans-1,3-Dichloropropene	ug/kg	41 U	53 U	45 U	44 U
Trichloroethene	ug/kg	41 U	53 U	45 U	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	83 U	110 U	91 U	88 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	260 U	230 U	220 U
Vinyl chloride	ug/kg	33 U	42 U	36 U	35 U
Xylenes (total)	ug/kg	120 U	160 U	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	1100 U	14000 U	12 J	270 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB78-11	SB78-11	SB79-11	SB79-11
Sample Identification		SO-17360-030211-DR-155	SO-17360-030211-DR-156	SO-17360-030211-DR-153	SO-17360-030211-DR-154
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	1100 U	14000 U	270 U	270 U
Acenaphthylene	ug/kg	1100 U	14000 U	270 U	270 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	1100 U	14000 U	270 U	270 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	130 J	14000 U	31 J	270 U
Benzo(a)pyrene	ug/kg	140 J	14000 U	34 J	270 U
Benzo(b)fluoranthene	ug/kg	160 J	14000 U	48 J	270 U
Benzo(g,h,i)perylene	ug/kg	120 J	14000 U	30 J	270 U
Benzo(k)fluoranthene	ug/kg	120 J	14000 U	28 J	270 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	160 J	14000 U	44 J	270 U
Dibenz(a,h)anthracene	ug/kg	1100 U	14000 U	270 U	270 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	270 J	14000 U	54 J	270 U
Fluorene	ug/kg	1100 U	14000 U	270 U	270 U
Hexachlorobenzene	ug/kg	--	--	--	--

Table 3.19.3

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB78-11	SB78-11	SB79-11	SB79-11
Sample Identification		SO-17360-030211-DR-155	SO-17360-030211-DR-156	SO-17360-030211-DR-153	SO-17360-030211-DR-154
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	92 J	14000 U	25 J	270 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	1100 U	14000 U	8.5 J	270 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	110 J	14000 U	18 J	270 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	210 J	14000 U	46 J	270 U
Total solids	%	--	--	--	--
Metals					
Antimony	ug/kg	63 J	36 J	26 J	170 UJ
Arsenic	ug/kg	2700 J	2300 J	1900 J	960 J
Barium	ug/kg	17800	8800	13200	3500
Beryllium	ug/kg	160 U	160 U	160 U	170 U
Cadmium	ug/kg	82 U	82 U	82 U	83 U
Chromium	ug/kg	5000	15900	6500	2100
Cobalt	ug/kg	2100	2400	2600	1000
Copper	ug/kg	6300	11100	5700	3000
Iron	ug/kg	--	--	--	--
Lead	ug/kg	9600	4200	6300	1200
Manganese	ug/kg	172000 J	143000 J	150000 J	61500 J
Mercury	ug/kg	41 U	41 U	41 U	41 U
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	4600	8700	6100	2300
Selenium	ug/kg	140 J	160 UJ	99 J	170 UJ
Silver	ug/kg	82 U	82 U	82 U	83 U
Thallium	ug/kg	82 U	82 U	82 U	83 U
Vanadium	ug/kg	8300	6400	7200	3800

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB78-11	SB78-11	SB79-11	SB79-11
Sample Identification		SO-17360-030211-DR-155	SO-17360-030211-DR-156	SO-17360-030211-DR-153	SO-17360-030211-DR-154
Sample Date		3/2/2011	3/2/2011	3/2/2011	3/2/2011
Sample Type					
Sample Depth		(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS	(16.5-18.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Zinc	ug/kg	13300	13700	12900	6700
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	2700 U	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	19 J	2700 U	270 U	270 U
Total PCBs	ug/kg	19 J	0	0	0

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB197-12	SB197-12	SB197-12	SB198-12	SB198-12
Sample Identification		S-17360-102512-DD-101	S-17360-102512-DD-103	S-17360-102512-DD-104	S-17360-102512-DD-100	S-17360-102512-DD-102
Sample Date		10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,1,2,2-Tetrachloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,1,2-Trichloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,1-Dichloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,1-Dichloroethene	ug/kg	53 U	55 U	55 U	54 U	56 U
1,2,4-Trichlorobenzene	ug/kg	53 U	55 U	55 U	54 U	56 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	270 U	270 U	270 U	270 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	53 U	55 U	55 U	54 U	56 U
1,2-Dichlorobenzene	ug/kg	53 U	55 U	55 U	54 U	56 U
1,2-Dichloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,2-Dichloropropane	ug/kg	53 U	55 U	55 U	54 U	56 U
1,3-Dichlorobenzene	ug/kg	53 U	55 U	55 U	54 U	56 U
1,4-Dichlorobenzene	ug/kg	53 U	55 U	55 U	54 U	56 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	800 U	820 U	820 U	810 U	840 U
2-Hexanone	ug/kg	2700 U	2700 U	2700 U	2700 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2700 U	2700 U	2700 U	2700 U	2800 U
Acetone	ug/kg	800 U	820 U	820 U	810 U	840 U
Benzene	ug/kg	53 U	55 U	55 U	54 U	56 U
Bromodichloromethane	ug/kg	53 U	55 U	55 U	54 U	56 U
Bromoform	ug/kg	53 U	55 U	55 U	54 U	56 U
Bromomethane (Methyl bromide)	ug/kg	53 U	55 U	55 U	54 U	56 U
Carbon disulfide	ug/kg	270 U	270 U	270 U	270 U	280 U
Carbon tetrachloride	ug/kg	53 U	55 U	55 U	54 U	56 U
Chlorobenzene	ug/kg	53 U	55 U	55 U	54 U	56 U
Chloroethane	ug/kg	53 U	55 U	55 U	54 U	56 U
Chloroform (Trichloromethane)	ug/kg	53 U	11 J	55 U	54 U	56 U
Chloromethane (Methyl chloride)	ug/kg	53 U	55 U	55 U	54 U	56 U
cis-1,2-Dichloroethene	ug/kg	53 U	55 U	55 U	54 U	56 U
cis-1,3-Dichloropropene	ug/kg	53 U	55 U	55 U	54 U	56 U
Cyclohexane	ug/kg	270 U	270 U	270 U	270 U	280 U
Dibromochloromethane	ug/kg	53 U	55 U	55 U	54 U	56 U
Dichlorodifluoromethane (CFC-12)	ug/kg	53 U	55 U	55 U	54 U	56 U
Ethylbenzene	ug/kg	12 J	55 U	82	54 U	56 U

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB197-12	SB197-12	SB197-12	SB198-12	SB198-12
Sample Identification		S-17360-102512-DD-101	S-17360-102512-DD-103	S-17360-102512-DD-104	S-17360-102512-DD-100	S-17360-102512-DD-102
Sample Date		10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Isopropyl benzene	ug/kg	53 U	55 U	55 U	54 U	56 U
Methyl acetate	ug/kg	270 U	270 U	270 U	270 U	280 U
Methyl cyclohexane	ug/kg	49 J	75 J	45 J	270 U	280 U
Methyl tert butyl ether (MTBE)	ug/kg	53 U	55 U	55 U	54 U	56 U
Methylene chloride	ug/kg	110 U	110 U	34 J	110 U	110 U
Styrene	ug/kg	53 U	55 U	55 U	54 U	56 U
Tetrachloroethene	ug/kg	53 U	55 U	55 U	54 U	56 U
Toluene	ug/kg	15 J	17 J	21 J	54 U	56 U
trans-1,2-Dichloroethene	ug/kg	53 U	55 U	55 U	54 U	56 U
trans-1,3-Dichloropropene	ug/kg	53 U	55 U	55 U	54 U	56 U
Trichloroethene	ug/kg	**980**[bc]	**4300 J**[bcdef]	**1100 J**[bce]	54 U	56 U
Trichlorofluoromethane (CFC-11)	ug/kg	53 U	55 U	35 J	54 U	56 U
Trifluorotrichloroethane (Freon 113)	ug/kg	53 U	55 U	55 U	54 U	56 U
Vinyl chloride	ug/kg	43 U	44 U	44 U	43 U	45 U
Xylenes (total)	ug/kg	71 J	43 J	350	160 U	170 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	89 U	92 U	92 U	90 U	19 U
2,4,5-Trichlorophenol	ug/kg	89 U	92 U	92 U	90 U	19 U
2,4,6-Trichlorophenol	ug/kg	89 U	92 U	92 U	90 U	19 U
2,4-Dichlorophenol	ug/kg	180 U	180 U	180 U	180 U	37 U
2,4-Dimethylphenol	ug/kg	890 U	920 U	920 U	900 U	190 U
2,4-Dinitrophenol	ug/kg	890 U	920 U	920 U	900 U	190 U
2,4-Dinitrotoluene	ug/kg	180 U	180 U	180 U	180 U	37 U
2,6-Dinitrotoluene	ug/kg	89 U	92 U	92 U	90 U	19 U
2-Chloronaphthalene	ug/kg	89 U	92 U	92 U	90 U	19 U
2-Chlorophenol	ug/kg	89 U	92 U	92 U	90 U	19 U
2-Methylnaphthalene	ug/kg	130	49 J	57 J	95	19 U
2-Methylphenol	ug/kg	89 U	92 U	92 U	90 U	19 U
2-Nitroaniline	ug/kg	89 U	92 U	92 U	90 U	19 U
2-Nitrophenol	ug/kg	89 U	92 U	92 U	90 U	19 U
3,3'-Dichlorobenzidine	ug/kg	4400 U	4600 U	4600 U	4500 U	930 U
3-Nitroaniline	ug/kg	180 U	180 U	180 U	180 U	37 U
4,6-Dinitro-2-methylphenol	ug/kg	890 U	920 U	920 U	900 U	190 U

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB197-12	SB197-12	SB197-12	SB198-12	SB198-12
Sample Identification		S-17360-102512-DD-101	S-17360-102512-DD-103	S-17360-102512-DD-104	S-17360-102512-DD-100	S-17360-102512-DD-102
Sample Date		10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
4-Bromophenyl phenyl ether	ug/kg	89 U	92 U	92 U	90 U	19 U
4-Chloro-3-methylphenol	ug/kg	89 U	92 U	92 U	90 U	19 U
4-Chloroaniline	ug/kg	360 U	370 U	370 U	360 U	74 U
4-Chlorophenyl phenyl ether	ug/kg	89 U	92 U	92 U	90 U	19 U
4-Methylphenol	ug/kg	89 U	92 U	92 U	90 U	19 U
4-Nitroaniline	ug/kg	180 U	180 U	180 U	180 U	37 U
4-Nitrophenol	ug/kg	3600 U	3700 U	3700 U	3600 U	740 U
Acenaphthene	ug/kg	200	130	210	230	19 U
Acenaphthylene	ug/kg	11 J	7.6 J	9.2 J	11 J	19 U
Acetophenone	ug/kg	89 U	92 U	92 U	90 U	19 U
Anthracene	ug/kg	470	450	610	560	19 U
Atrazine	ug/kg	89 U	92 U	92 U	90 U	19 U
Benzaldehyde	ug/kg	360 U	370 U	370 U	360 U	74 U
Benzo(a)anthracene	ug/kg	1300	1100	1400	780	19 U
Benzo(a)pyrene	ug/kg	710	770	870	460	19 U
Benzo(b)fluoranthene	ug/kg	990	1100	1200	570	19 U
Benzo(g,h,i)perylene	ug/kg	470	460	610	320	37 U
Benzo(k)fluoranthene	ug/kg	600	540	570	390	19 U
Biphenyl (1,1-Biphenyl)	ug/kg	89 U	92 U	92 U	90 U	19 U
bis(2-Chloroethoxy)methane	ug/kg	89 U	92 U	92 U	90 U	19 U
bis(2-Chloroethyl)ether	ug/kg	89 U	92 U	92 U	90 U	19 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	180 U	180 U	180 U	180 U	37 U
Butyl benzylphthalate (BBP)	ug/kg	280 U	180 U	180 U	180 U	37 U
Caprolactam	ug/kg	360 UJ	370 UJ	370 UJ	360 UJ	74 UJ
Carbazole	ug/kg	890 U	920 U	920 U	140 J	190 U
Chrysene	ug/kg	1300	1100	1400	830	19 U
Dibenz(a,h)anthracene	ug/kg	180 U	140 J	180 U	180 U	37 U
Dibenzofuran	ug/kg	110	76 J	130	230	19 U
Diethyl phthalate	ug/kg	89 U	120 U	100 U	96 U	19 U
Dimethyl phthalate	ug/kg	89 U	92 U	92 U	90 U	19 U
Di-n-butylphthalate (DBP)	ug/kg	360 U	370 U	370 U	360 U	74 U
Di-n-octyl phthalate (DnOP)	ug/kg	89 U	92 U	92 U	90 U	19 U
Fluoranthene	ug/kg	3400	2800	3600	2400	19 U
Fluorene	ug/kg	110 J	89 J	160 J	130 J	37 U
Hexachlorobenzene	ug/kg	89 U	92 U	92 U	90 U	19 U

Table 3.19.3

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB197-12	SB197-12	SB197-12	SB198-12	SB198-12
Sample Identification		S-17360-102512-DD-101	S-17360-102512-DD-103	S-17360-102512-DD-104	S-17360-102512-DD-100	S-17360-102512-DD-102
Sample Date		10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Hexachlorobutadiene	ug/kg	89 U	92 U	92 U	90 U	19 U
Hexachlorocyclopentadiene	ug/kg	89 U	92 U	92 U	90 U	19 U
Hexachloroethane	ug/kg	89 U	92 U	92 U	90 U	19 U
Indeno(1,2,3-cd)pyrene	ug/kg	410	470	500	250	37 U
Isophorone	ug/kg	89 U	92 U	92 U	90 U	19 U
Naphthalene	ug/kg	120	45 J	64 J	84 J	19 U
Nitrobenzene	ug/kg	89 U	92 U	92 U	90 U	19 U
N-Nitrosodi-n-propylamine	ug/kg	89 U	92 U	92 U	90 U	19 U
N-Nitrosodiphenylamine	ug/kg	89 U	92 U	92 U	90 U	19 U
Pentachlorophenol	ug/kg	890 U	920 U	920 U	900 U	190 U
Phenanthrene	ug/kg	1500	1200	1900	1900	19 U
Phenol	ug/kg	890 UJ	920 UJ	920 UJ	900 UJ	190 UJ
Pyrene	ug/kg	4100	3000	4200	2300	19 U
Total solids	%	94	91	91	93	90
Metals						
Antimony	ug/kg	1100	4000 J	590 J	290	50 J
Arsenic	ug/kg	1900	1900	1900	2600	1500
Barium	ug/kg	46000	38000	38000	35000	3900
Beryllium	ug/kg	270 J	180 J	190 J	170 J	61 J
Cadmium	ug/kg	150	120	95	110	23 J
Chromium	ug/kg	9000	11000	12000	8300	3600
Cobalt	ug/kg	1900	2000	2400	2400	1400
Copper	ug/kg	8100	8900	9100	9000	3300
Iron	ug/kg	5900000	5600000	7600000	6600000	3100000
Lead	ug/kg	150000	73000	72000	56000	1900
Manganese	ug/kg	140000	150000	170000	150000	84000
Mercury	ug/kg	26 J	15 J	15 J	8.4 J	50 U
Molybdenum	ug/kg	730 J	1300	1300	870 J	260 J
Nickel	ug/kg	5800	6200	6800	6100	3300
Selenium	ug/kg	160	63 J	93 U	88 J	94 U
Silver	ug/kg	55	44 J	48	47 J	17 J
Thallium	ug/kg	40 J	40 J	42 J	43 J	19 J
Vanadium	ug/kg	9200	9300	10000	9300	4100

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB197-12	SB197-12	SB197-12	SB198-12	SB198-12
Sample Identification		S-17360-102512-DD-101	S-17360-102512-DD-103	S-17360-102512-DD-104	S-17360-102512-DD-100	S-17360-102512-DD-102
Sample Date		10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Zinc	ug/kg	35000	28000	30000	24000	9100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	350 U	360 U	360 U	360 U	370 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	360 U	360 U	360 U	370 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	360 U	360 U	360 U	370 U
Aroclor-1242 (PCB-1242)	ug/kg	37 J	20 J	22 J	8.5 J	370 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	360 U	360 U	360 U	370 U
Aroclor-1254 (PCB-1254)	ug/kg	63 J	37 J	36 J	23 J	370 U
Aroclor-1260 (PCB-1260)	ug/kg	32 J	19 J	21 J	23 J	370 U
Total PCBs	ug/kg	132 J	76 J	79 J	54.5 J	0

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A	SME SB197-12A	SME SB197-12A	SME SB197-12A1	SME SB197-12A1
Sample Identification		DUP-1	SME SB197-12A(0-2)	SME SB197-12A(13-14)	SME SB197-12A1(0-2)	SME SB197-12A1(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type		Duplicate				
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(13-14) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SME SB197-12A**	**SME SB197-12A**	**SME SB197-12A**	**SME SB197-12A1**	**SME SB197-12A1**
Sample Identification		**DUP-1**	**SME SB197-12A(0-2)**	**SME SB197-12A(13-14)**	**SME SB197-12A1(0-2)**	**SME SB197-12A1(11-13)**
Sample Date		**1/11/2013**	**1/11/2013**	**1/11/2013**	**1/11/2013**	**1/11/2013**
Sample Type		**Duplicate**				
Sample Depth		**(0-2) ft BGS**	**(0-2) ft BGS**	**(13-14) ft BGS**	**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	53 U	58 U	53 U	**360**[bc]	54 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A	SME SB197-12A	SME SB197-12A	SME SB197-12A1	SME SB197-12A1
Sample Identification		DUP-1	SME SB197-12A(0-2)	SME SB197-12A(13-14)	SME SB197-12A1(0-2)	SME SB197-12A1(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type		Duplicate				
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(13-14) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A	SME SB197-12A	SME SB197-12A	SME SB197-12A1	SME SB197-12A1
Sample Identification		DUP-1	SME SB197-12A(0-2)	SME SB197-12A(13-14)	SME SB197-12A1(0-2)	SME SB197-12A1(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type		Duplicate				
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(13-14) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Hexachlorobutadiene	ug/kg	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A	SME SB197-12A	SME SB197-12A	SME SB197-12A1	SME SB197-12A1
Sample Identification		DUP-1	SME SB197-12A(0-2)	SME SB197-12A(13-14)	SME SB197-12A1(0-2)	SME SB197-12A1(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type		Duplicate				
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(13-14) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Table 3.19.3

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A2	SME SB197-12A2	SME SB197-12A3	SME SB197-12A3
Sample Identification		SME SB197-12A2(0-2)	SME SB197-12A2(11-13)	SME SB197-12A3(0-2)	SME SB197-12A3(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SME SB197-12A2**	**SME SB197-12A2**	**SME SB197-12A3**	**SME SB197-12A3**
Sample Identification		**SME SB197-12A2(0-2)**	**SME SB197-12A2(11-13)**	**SME SB197-12A3(0-2)**	**SME SB197-12A3(11-13)**
Sample Date		**1/11/2013**	**1/11/2013**	**1/11/2013**	**1/11/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**	**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	**370**[bc]	54 U	69	53 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SME SB197-12A2	SME SB197-12A2	SME SB197-12A3	SME SB197-12A3
Sample Identification		SME SB197-12A2(0-2)	SME SB197-12A2(11-13)	SME SB197-12A3(0-2)	SME SB197-12A3(11-13)
Sample Date		1/11/2013	1/11/2013	1/11/2013	1/11/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 15.3	AOI 15.3	AOI 15.3	AOI 15.3
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SME SB197-12A2**	**SME SB197-12A2**	**SME SB197-12A3**	**SME SB197-12A3**
Sample Identification		**SME SB197-12A2(0-2)**	**SME SB197-12A2(11-13)**	**SME SB197-12A3(0-2)**	**SME SB197-12A3(11-13)**
Sample Date		**1/11/2013**	**1/11/2013**	**1/11/2013**	**1/11/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**	**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Total solids	%	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 15.3 – Former Baler House (most recent)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SME SB197-12A2**	**SME SB197-12A2**	**SME SB197-12A3**	**SME SB197-12A3**
Sample Identification		**SME SB197-12A2(0-2)**	**SME SB197-12A2(11-13)**	**SME SB197-12A3(0-2)**	**SME SB197-12A3(11-13)**
Sample Date		**1/11/2013**	**1/11/2013**	**1/11/2013**	**1/11/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(11-13) ft BGS**	**(0-2) ft BGS**	**(11-13) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 15.3**	**AOI 15.3**	**AOI 15.3**	**AOI 15.3**
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.20.1

Soil Sample Analytical Results - AOI 16.1 – Main Manufacturing Building – Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB80-11**	**SB80-11**
Sample Identification		**SO-17360-021611-JY-061**	**SO-17360-021611-JY-062**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.1**	**AOI 16.1**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	47 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	47 U	47 U
1,1,2-Trichloroethane	ug/kg	47 U	47 U
1,1-Dichloroethane	ug/kg	47 U	47 U
1,1-Dichloroethene	ug/kg	47 U	47 U
1,2,4-Trichlorobenzene	ug/kg	230 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	240 U
1,2-Dichlorobenzene	ug/kg	94 U	95 U
1,2-Dichloroethane	ug/kg	47 U	47 U
1,2-Dichloropropane	ug/kg	47 U	47 U
1,3-Dichlorobenzene	ug/kg	94 U	95 U
1,4-Dichlorobenzene	ug/kg	94 U	95 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	700 U	710 U
2-Hexanone	ug/kg	2300 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2400 U
Acetone	ug/kg	700 U	710 U
Benzene	ug/kg	47 U	47 U
Bromodichloromethane	ug/kg	94 U	95 U
Bromoform	ug/kg	94 U	95 U
Bromomethane (Methyl bromide)	ug/kg	230 U	240 U
Carbon disulfide	ug/kg	230 U	240 U
Carbon tetrachloride	ug/kg	47 U	47 U
Chlorobenzene	ug/kg	47 U	47 U
Chloroethane	ug/kg	230 U	240 U
Chloroform (Trichloromethane)	ug/kg	47 U	47 U
Chloromethane (Methyl chloride)	ug/kg	230 U	240 U
cis-1,2-Dichloroethene	ug/kg	47 U	47 U
cis-1,3-Dichloropropene	ug/kg	47 U	47 U
Cyclohexane	ug/kg	1100 U	1100 U
Dibromochloromethane	ug/kg	47 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	94 U	95 U
Ethylbenzene	ug/kg	47 U	47 U

Soil Sample Analytical Results - AOI 16.1 – Main Manufacturing Building – Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB80-11**	**SB80-11**
Sample Identification		**SO-17360-021611-JY-061**	**SO-17360-021611-JY-062**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.1**	**AOI 16.1**
Isopropyl benzene	ug/kg	230 U	240 U
Methyl acetate	ug/kg	1100 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	240 U
Methylene chloride	ug/kg	230 U	240 U
Styrene	ug/kg	47 U	47 U
Tetrachloroethene	ug/kg	47 U	47 U
Toluene	ug/kg	94 U	95 U
trans-1,2-Dichloroethene	ug/kg	47 U	47 U
trans-1,3-Dichloropropene	ug/kg	47 U	47 U
Trichloroethene	ug/kg	47 U	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	94 U	95 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	240 U
Vinyl chloride	ug/kg	37 U	38 U
Xylenes (total)	ug/kg	140 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	290 U
Acenaphthene	ug/kg	270 U	290 U
Acenaphthylene	ug/kg	270 U	290 U
Anthracene	ug/kg	270 U	290 U
Benzo(a)anthracene	ug/kg	270 U	290 U
Benzo(a)pyrene	ug/kg	270 U	290 U
Benzo(b)fluoranthene	ug/kg	16 J	290 U
Benzo(g,h,i)perylene	ug/kg	270 U	290 U
Benzo(k)fluoranthene	ug/kg	270 U	290 U
Chrysene	ug/kg	270 U	290 U
Dibenz(a,h)anthracene	ug/kg	270 U	290 U
Fluoranthene	ug/kg	15 J	290 U
Fluorene	ug/kg	270 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	290 U
Naphthalene	ug/kg	270 U	290 U
Phenanthrene	ug/kg	7.1 J	290 U
Pyrene	ug/kg	14 J	290 U

Table 3.20.1

Soil Sample Analytical Results - AOI 16.1 – Main Manufacturing Building – Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB80-11**	**SB80-11**
Sample Identification		**SO-17360-021611-JY-061**	**SO-17360-021611-JY-062**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.1**	**AOI 16.1**
Metals			
Antimony	ug/kg	37 J	170 UJ
Arsenic	ug/kg	1900	1300
Barium	ug/kg	39900	4200
Beryllium	ug/kg	160 U	170 U
Cadmium	ug/kg	81 U	87 U
Chromium	ug/kg	5300	2200
Cobalt	ug/kg	2300	1200
Copper	ug/kg	2800 J	1800 J
Lead	ug/kg	7300	1400
Manganese	ug/kg	268000 J	64500 J
Mercury	ug/kg	21 J	43 U
Nickel	ug/kg	4400	2700
Selenium	ug/kg	150 J	170 UJ
Silver	ug/kg	81 U	87 U
Thallium	ug/kg	81 U	87 U
Vanadium	ug/kg	8700	3700
Zinc	ug/kg	17200	7200
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	290 U
Total PCBs	ug/kg	0	0

Table 3.20.2

Soil Sample Analytical Results - AOI 16.2 – Main Manufacturing Building – Area No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB81-11	SB265-13	SB265-13	SB266-13
Sample Identification		SO-17360-021611-JY-068	SO-17360-082213-MR-158	SO-17360-082213-MR-159	SO-17360-082213-MR-157
Sample Date		2/16/2011	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(2-3) ft BGS	(5-6) ft BGS	(14-15) ft BGS	(4-5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 16.2	AOI 16.2	AOI 16.2	AOI 16.2
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	58 U	33 U	32 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	58 U	33 U	32 U	37 U
1,1,2-Trichloroethane	ug/kg	58 U	33 U	32 U	37 U
1,1-Dichloroethane	ug/kg	58 U	33 U	32 U	37 U
1,1-Dichloroethene	ug/kg	58 U	33 U	32 U	37 U
1,2,4-Trichlorobenzene	ug/kg	290 U	33 U	32 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	33 U	32 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	33 U	32 U	37 U
1,2-Dichlorobenzene	ug/kg	120 U	33 U	32 U	37 U
1,2-Dichloroethane	ug/kg	58 U	33 U	32 U	37 U
1,2-Dichloropropane	ug/kg	58 U	33 U	32 U	37 U
1,3-Dichlorobenzene	ug/kg	120 U	33 U	32 U	37 U
1,4-Dichlorobenzene	ug/kg	120 U	33 U	32 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	870 U	220 U	210 U	240 U
2-Hexanone	ug/kg	2900 U	33 U	32 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	33 U	32 U	37 U
Acetone	ug/kg	870 U	110 U	110 U	120 U
Benzene	ug/kg	58 U	33 U	32 U	37 U
Bromodichloromethane	ug/kg	120 U	33 U	32 U	37 U
Bromoform	ug/kg	120 U	33 U	32 U	37 U
Bromomethane (Methyl bromide)	ug/kg	290 U	82 UJ	80 UJ	92 UJ
Carbon disulfide	ug/kg	290 U	33 U	32 U	37 U
Carbon tetrachloride	ug/kg	58 U	33 U	32 U	37 U
Chlorobenzene	ug/kg	58 U	33 U	32 U	37 U
Chloroethane	ug/kg	290 U	110 U	110 U	120 U
Chloroform (Trichloromethane)	ug/kg	58 U	33 U	32 U	37 U
Chloromethane (Methyl chloride)	ug/kg	290 U	110 U	110 U	120 U
cis-1,2-Dichloroethene	ug/kg	58 U	33 U	32 U	37 U
cis-1,3-Dichloropropene	ug/kg	58 U	33 U	32 U	37 U
Cyclohexane	ug/kg	1400 U	33 U	32 U	37 U
Dibromochloromethane	ug/kg	58 U	33 U	32 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	33 U	32 U	37 U
Ethylbenzene	ug/kg	58 U	33 U	32 U	37 U

Table 3.20.2

Soil Sample Analytical Results - AOI 16.2 – Main Manufacturing Building – Area No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB81-11**	**SB265-13**	**SB265-13**	**SB266-13**
Sample Identification		**SO-17360-021611-JY-068**	**SO-17360-082213-MR-158**	**SO-17360-082213-MR-159**	**SO-17360-082213-MR-157**
Sample Date		**2/16/2011**	**8/22/2013**	**8/22/2013**	**8/22/2013**
Sample Type					
Sample Depth		**(2-3) ft BGS**	**(5-6) ft BGS**	**(14-15) ft BGS**	**(4-5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.2**	**AOI 16.2**	**AOI 16.2**	**AOI 16.2**
Isopropyl benzene	ug/kg	290 U	33 U	32 U	37 U
Methyl acetate	ug/kg	1400 U	220 U	210 U	240 U
Methyl cyclohexane	ug/kg	1400 U	33 U	32 U	48
Methyl tert butyl ether (MTBE)	ug/kg	290 U	33 U	32 U	37 U
Methylene chloride	ug/kg	290 U	33 U	32 U	37 U
Styrene	ug/kg	58 U	33 U	32 U	37 U
Tetrachloroethene	ug/kg	58 U	33 U	32 U	37 U
Toluene	ug/kg	120 U	33 U	32 U	15 J
trans-1,2-Dichloroethene	ug/kg	58 U	33 U	32 U	37 U
trans-1,3-Dichloropropene	ug/kg	58 U	33 U	32 U	37 U
Trichloroethene	ug/kg	58 U	33 U	32 U	46
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	33 U	32 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	33 U	32 U	37 U
Vinyl chloride	ug/kg	46 U	33 U	32 U	37 U
Xylenes (total)	ug/kg	170 U	99 U	96 U	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	8.2 J	84 U	80 U	850 U
Acenaphthene	ug/kg	13 J	32 U	30 U	320 U
Acenaphthylene	ug/kg	270 U	32 U	30 U	320 U
Anthracene	ug/kg	24 J	32 U	30 U	460
Benzo(a)anthracene	ug/kg	110 J	32 U	30 U	580
Benzo(a)pyrene	ug/kg	42 J	32 U	30 U	1000
Benzo(b)fluoranthene	ug/kg	94 J	32 U	30 U	1000
Benzo(g,h,i)perylene	ug/kg	38 J	32 U	30 U	870
Benzo(k)fluoranthene	ug/kg	54 J	32 U	30 U	560
Chrysene	ug/kg	81 J	32 U	30 U	530
Dibenz(a,h)anthracene	ug/kg	270 U	32 U	30 U	700
Fluoranthene	ug/kg	400	47	30 U	1500
Fluorene	ug/kg	8.7 J	32 U	30 U	320 U
Indeno(1,2,3-cd)pyrene	ug/kg	31 J	32 U	30 U	760
Naphthalene	ug/kg	270 U	32 U	30 U	320 U
Phenanthrene	ug/kg	250 J	32 U	30 U	550
Pyrene	ug/kg	330	18 J	30 U	910

Table 3.20.2

Soil Sample Analytical Results - AOI 16.2 – Main Manufacturing Building – Area No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB81-11	SB265-13	SB265-13	SB266-13
Sample Identification		SO-17360-021611-JY-068	SO-17360-082213-MR-158	SO-17360-082213-MR-159	SO-17360-082213-MR-157
Sample Date		2/16/2011	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(2-3) ft BGS	(5-6) ft BGS	(14-15) ft BGS	(4-5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 16.2	AOI 16.2	AOI 16.2	AOI 16.2
Metals					
Antimony	ug/kg	270 J	260 U	240 U	130 J
Arsenic	ug/kg	760	1800	2800	2300
Barium	ug/kg	29600	7000	5300	21000
Beryllium	ug/kg	170 U	39 J	36 J	110 J
Cadmium	ug/kg	83 U	100 U	95 U	140 U
Chromium	ug/kg	4900	5900	6200	4400
Cobalt	ug/kg	1300	2500	2300	1700
Copper	ug/kg	2100 J	6600	4400	4100
Iron	ug/kg	--	5300000	4200000	4200000
Lead	ug/kg	1300	3300 U	2800 U	5300
Manganese	ug/kg	200000 J	210000	110000	110000
Mercury	ug/kg	41 U	5.7 J	3.8 J	11 J
Molybdenum	ug/kg	--	260 U	240 U	260 J
Nickel	ug/kg	7100	5500	4700	4000
Selenium	ug/kg	140 J	240 J	240	260 J
Silver	ug/kg	83 U	260 U	240 U	350 U
Thallium	ug/kg	83 U	1300 U	1200 U	42 J
Vanadium	ug/kg	4600	8300	7800	7400
Zinc	ug/kg	4700	12000	7900	10000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	350 U	330 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	350 U	330 U	340 U
Total PCBs	ug/kg	0	0	0	0

Table 3.20.3

Soil Sample Analytical Results - AOI 16.3 – Former Heat Treat Building No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB82-11	SB82-11
Sample Identification		SO-17360-022511-DR-128	SO-17360-022511-DR-129
Sample Date		2/25/2011	2/25/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 16.3	AOI 16.3
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	52 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	52 U	44 U
1,1,2-Trichloroethane	ug/kg	52 U	44 U
1,1-Dichloroethane	ug/kg	52 U	44 U
1,1-Dichloroethene	ug/kg	52 U	44 U
1,2,4-Trichlorobenzene	ug/kg	260 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 UJ	220 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	260 U	220 U
1,2-Dichlorobenzene	ug/kg	100 U	87 U
1,2-Dichloroethane	ug/kg	52 U	44 U
1,2-Dichloropropane	ug/kg	52 U	44 U
1,3-Dichlorobenzene	ug/kg	100 U	87 U
1,4-Dichlorobenzene	ug/kg	100 U	87 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	780 U	650 U
2-Hexanone	ug/kg	2600 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2600 U	2200 U
Acetone	ug/kg	780 UJ	650 UJ
Benzene	ug/kg	52 U	44 U
Bromodichloromethane	ug/kg	100 U	87 U
Bromoform	ug/kg	100 UJ	87 UJ
Bromomethane (Methyl bromide)	ug/kg	260 U	220 U
Carbon disulfide	ug/kg	260 U	220 U
Carbon tetrachloride	ug/kg	52 U	44 U
Chlorobenzene	ug/kg	52 U	44 U
Chloroethane	ug/kg	260 U	220 U
Chloroform (Trichloromethane)	ug/kg	52 U	44 U
Chloromethane (Methyl chloride)	ug/kg	260 U	220 U
cis-1,2-Dichloroethene	ug/kg	52 U	44 U
cis-1,3-Dichloropropene	ug/kg	52 U	44 U
Cyclohexane	ug/kg	1300 U	1000 U
Dibromochloromethane	ug/kg	52 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	100 U	87 U
Ethylbenzene	ug/kg	52 U	44 U

Table 3.20.3

Soil Sample Analytical Results - AOI 16.3 – Former Heat Treat Building No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB82-11	SB82-11
Sample Identification		SO-17360-022511-DR-128	SO-17360-022511-DR-129
Sample Date		2/25/2011	2/25/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 16.3	AOI 16.3
Isopropyl benzene	ug/kg	260 U	220 U
Methyl acetate	ug/kg	79 J	1000 U
Methyl cyclohexane	ug/kg	1300 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	260 U	220 U
Methylene chloride	ug/kg	260 U	220 U
Styrene	ug/kg	52 U	44 U
Tetrachloroethene	ug/kg	52 U	44 U
Toluene	ug/kg	100 U	87 U
trans-1,2-Dichloroethene	ug/kg	52 U	44 U
trans-1,3-Dichloropropene	ug/kg	52 U	44 U
Trichloroethene	ug/kg	**140**[bc]	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	100 U	87 U
Trifluorotrichloroethane (Freon 113)	ug/kg	260 U	220 U
Vinyl chloride	ug/kg	42 U	35 U
Xylenes (total)	ug/kg	160 U	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	150 J	270 U
Acenaphthene	ug/kg	310 U	270 U
Acenaphthylene	ug/kg	8.9 J	270 U
Anthracene	ug/kg	15 J	270 U
Benzo(a)anthracene	ug/kg	62 J	270 U
Benzo(a)pyrene	ug/kg	52 J	270 U
Benzo(b)fluoranthene	ug/kg	92 J	270 U
Benzo(g,h,i)perylene	ug/kg	43 J	270 U
Benzo(k)fluoranthene	ug/kg	32 J	270 U
Chrysene	ug/kg	81 J	270 U
Dibenz(a,h)anthracene	ug/kg	12 J	270 U
Fluoranthene	ug/kg	96 J	270 U
Fluorene	ug/kg	310 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	32 J	270 U
Naphthalene	ug/kg	77 J	270 U
Phenanthrene	ug/kg	180 J	270 U
Pyrene	ug/kg	80 J	270 U

Table 3.20.3

Soil Sample Analytical Results - AOI 16.3 – Former Heat Treat Building No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB82-11**	**SB82-11**
Sample Identification		**SO-17360-022511-DR-128**	**SO-17360-022511-DR-129**
Sample Date		**2/25/2011**	**2/25/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.3**	**AOI 16.3**
Metals			
Antimony	ug/kg	62 J	160 UJ
Arsenic	ug/kg	1400 J	1100 J
Barium	ug/kg	22300	5200
Beryllium	ug/kg	190 U	160 U
Cadmium	ug/kg	93 U	82 U
Chromium	ug/kg	11700	3500
Cobalt	ug/kg	2600	1600
Copper	ug/kg	5900	6100
Lead	ug/kg	9800	1700
Manganese	ug/kg	160000	89900
Mercury	ug/kg	47 U	41 U
Nickel	ug/kg	8600	3600
Selenium	ug/kg	180 J	160 UJ
Silver	ug/kg	52 J	82 U
Thallium	ug/kg	93 U	82 U
Vanadium	ug/kg	10100	4500
Zinc	ug/kg	14500	6500
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	310 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	310 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	310 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	310 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	310 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	310 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	310 U	270 U
Total PCBs	ug/kg	0	0

Table 3.20.4

Soil Sample Analytical Results - AOI 16.4 – Former Heat Treat Building No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB83-11	SB83-11
Sample Identification		SO-17360-022211-DR-118	SO-17360-022211-DR-119
Sample Date		2/22/2011	2/22/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(17-19) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 16.4	AOI 16.4
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	46 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	43 U
1,1,2-Trichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethene	ug/kg	46 U	43 U
1,2,4-Trichlorobenzene	ug/kg	230 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	210 U
1,2-Dichlorobenzene	ug/kg	92 U	85 U
1,2-Dichloroethane	ug/kg	46 U	43 U
1,2-Dichloropropane	ug/kg	46 U	43 U
1,3-Dichlorobenzene	ug/kg	92 U	85 U
1,4-Dichlorobenzene	ug/kg	92 U	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	690 U	640 U
2-Hexanone	ug/kg	2300 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2100 U
Acetone	ug/kg	690 U	640 U
Benzene	ug/kg	46 U	43 U
Bromodichloromethane	ug/kg	92 U	85 U
Bromoform	ug/kg	92 U	85 U
Bromomethane (Methyl bromide)	ug/kg	230 UJ	210 UJ
Carbon disulfide	ug/kg	230 U	210 U
Carbon tetrachloride	ug/kg	46 U	43 U
Chlorobenzene	ug/kg	46 U	43 U
Chloroethane	ug/kg	230 U	210 U
Chloroform (Trichloromethane)	ug/kg	46 U	43 U
Chloromethane (Methyl chloride)	ug/kg	230 UJ	210 UJ
cis-1,2-Dichloroethene	ug/kg	46 U	43 U
cis-1,3-Dichloropropene	ug/kg	46 U	43 U
Cyclohexane	ug/kg	1100 U	1000 U
Dibromochloromethane	ug/kg	46 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	92 U	85 U
Ethylbenzene	ug/kg	46 U	43 U

Soil Sample Analytical Results - AOI 16.4 – Former Heat Treat Building No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB83-11	SB83-11
Sample Identification		SO-17360-022211-DR-118	SO-17360-022211-DR-119
Sample Date		2/22/2011	2/22/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(17-19) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 16.4	AOI 16.4
Isopropyl benzene	ug/kg	230 U	210 U
Methyl acetate	ug/kg	1100 U	1000 U
Methyl cyclohexane	ug/kg	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	210 U
Methylene chloride	ug/kg	230 U	210 U
Styrene	ug/kg	46 U	43 U
Tetrachloroethene	ug/kg	46 U	43 U
Toluene	ug/kg	92 U	85 U
trans-1,2-Dichloroethene	ug/kg	46 U	43 U
trans-1,3-Dichloropropene	ug/kg	46 U	43 U
Trichloroethene	ug/kg	46 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	92 U	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	210 U
Vinyl chloride	ug/kg	37 U	34 U
Xylenes (total)	ug/kg	20 J	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	42 J	270 U
Acenaphthene	ug/kg	280 U	270 U
Acenaphthylene	ug/kg	280 U	270 U
Anthracene	ug/kg	7.8 J	270 U
Benzo(a)anthracene	ug/kg	23 J	270 U
Benzo(a)pyrene	ug/kg	21 J	270 U
Benzo(b)fluoranthene	ug/kg	32 J	270 U
Benzo(g,h,i)perylene	ug/kg	14 J	270 U
Benzo(k)fluoranthene	ug/kg	14 J	270 U
Chrysene	ug/kg	34 J	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U
Fluoranthene	ug/kg	40 J	270 U
Fluorene	ug/kg	280 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	13 J	270 U
Naphthalene	ug/kg	24 J	270 U
Phenanthrene	ug/kg	45 J	270 U
Pyrene	ug/kg	36 J	270 U

Table 3.20.4

Soil Sample Analytical Results - AOI 16.4 – Former Heat Treat Building No. 2
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB83-11**	**SB83-11**
Sample Identification		**SO-17360-022211-DR-118**	**SO-17360-022211-DR-119**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 16.4**	**AOI 16.4**
Metals			
Antimony	ug/kg	110 J	160 UJ
Arsenic	ug/kg	2900	1200
Barium	ug/kg	21900	5500
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	84 U	82 U
Chromium	ug/kg	6100	5400
Cobalt	ug/kg	2300	2300
Copper	ug/kg	7100	4500
Lead	ug/kg	12300	2400
Manganese	ug/kg	146000	140000
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	6100	5100
Selenium	ug/kg	240 J	110 J
Silver	ug/kg	84 U	82 U
Thallium	ug/kg	84 U	82 U
Vanadium	ug/kg	7800	6200
Zinc	ug/kg	15900	9100
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U
Total PCBs	ug/kg	0	0

Table 3.21.1

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB84-11	SB84-11	SB84-11	SB84-11 Excavation, East Wall
Sample Identification		SO-17360-021811-DR-088	SO-17360-021811-DR-087	SO-17360-021811-DR-089	SO-17360-061212-SM-006
Sample Date		2/18/2011	2/18/2011	2/18/2011	6/12/2012
Sample Type					
Sample Depth		(1-3) ft BGS	(3-5) ft BGS	(19-21) ft BGS	(4-) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	52 U	210 U	56 U	--
1,1,2,2-Tetrachloroethane	ug/kg	52 U	210 U	56 U	--
1,1,2-Trichloroethane	ug/kg	52 U	210 U	56 U	--
1,1-Dichloroethane	ug/kg	52 U	210 U	56 U	--
1,1-Dichloroethene	ug/kg	52 U	210 U	56 U	--
1,2,4-Trichlorobenzene	ug/kg	260 U	1000 U	280 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 U	1000 U	280 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	260 U	1000 U	280 U	--
1,2-Dichlorobenzene	ug/kg	100 U	410 U	110 U	--
1,2-Dichloroethane	ug/kg	52 U	210 U	56 U	--
1,2-Dichloropropane	ug/kg	52 U	210 U	56 U	--
1,3-Dichlorobenzene	ug/kg	100 U	410 U	110 U	--
1,4-Dichlorobenzene	ug/kg	100 U	410 U	110 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	790 U	3100 U	830 U	--
2-Hexanone	ug/kg	2600 U	10000 U	2800 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2600 U	10000 U	2800 U	--
Acetone	ug/kg	790 U	3100 U	830 U	--
Benzene	ug/kg	21 J	210 U	56 U	--
Bromodichloromethane	ug/kg	100 U	410 U	110 U	--
Bromoform	ug/kg	100 U	410 U	110 U	--
Bromomethane (Methyl bromide)	ug/kg	260 U	1000 U	280 U	--
Carbon disulfide	ug/kg	260 U	1000 U	280 U	--
Carbon tetrachloride	ug/kg	52 U	210 U	56 U	--
Chlorobenzene	ug/kg	52 U	210 U	56 U	--
Chloroethane	ug/kg	260 U	1000 U	280 U	--
Chloroform (Trichloromethane)	ug/kg	52 U	210 U	56 U	--
Chloromethane (Methyl chloride)	ug/kg	260 U	1000 U	280 U	--
cis-1,2-Dichloroethene	ug/kg	52 U	210 U	56 U	--
cis-1,3-Dichloropropene	ug/kg	52 U	210 U	56 U	--
Cyclohexane	ug/kg	180 J	4900 U	1300 U	--
Dibromochloromethane	ug/kg	52 U	210 U	56 U	--
Dichlorodifluoromethane (CFC-12)	ug/kg	100 U	410 U	110 U	--
Ethylbenzene	ug/kg	28 J	210 U	56 U	--

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB84-11	SB84-11	SB84-11	SB84-11 Excavation, East Wall
Sample Identification		SO-17360-021811-DR-088	SO-17360-021811-DR-087	SO-17360-021811-DR-089	SO-17360-061212-SM-006
Sample Date		2/18/2011	2/18/2011	2/18/2011	6/12/2012
Sample Type					
Sample Depth		(1-3) ft BGS	(3-5) ft BGS	(19-21) ft BGS	(4-) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	26 J	1000 U	280 U	--
Methyl acetate	ug/kg	230 J	4900 U	1300 U	--
Methyl cyclohexane	ug/kg	250 J	4900 U	1300 U	--
Methyl tert butyl ether (MTBE)	ug/kg	260 U	1000 U	280 U	--
Methylene chloride	ug/kg	**230 J[bc]**	**820 J[bc]**	**220 J[bc]**	--
Styrene	ug/kg	52 U	210 U	56 U	--
Tetrachloroethene	ug/kg	52 U	210 U	56 U	--
Toluene	ug/kg	110	410 U	110 U	--
trans-1,2-Dichloroethene	ug/kg	52 U	210 U	56 U	--
trans-1,3-Dichloropropene	ug/kg	52 U	210 U	56 U	--
Trichloroethene	ug/kg	52 U	210 U	56 U	--
Trichlorofluoromethane (CFC-11)	ug/kg	100 U	410 U	110 U	--
Trifluorotrichloroethane (Freon 113)	ug/kg	260 U	1000 U	280 U	--
Vinyl chloride	ug/kg	42 U	160 U	44 U	--
Xylenes (total)	ug/kg	220	620 U	170 U	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	100 J	**29000 J[d]**	11 J	340 U
Acenaphthene	ug/kg	45 J	**95000 J[d]**	32 J	340 U
Acenaphthylene	ug/kg	280 U	140000 U	290 U	340 U
Anthracene	ug/kg	89 J	**190000[bc]**	67 J	340 U
Benzo(a)anthracene	ug/kg	150 J	**230000[op]**	72 J	11 J
Benzo(a)pyrene	ug/kg	120 J	**160000[op]**	50 J	11 J
Benzo(b)fluoranthene	ug/kg	230 J	**270000[op]**	71 J	27 J
Benzo(g,h,i)perylene	ug/kg	100 J	95000 J	32 J	17 J
Benzo(k)fluoranthene	ug/kg	93 J	96000 J	27 J	11 J
Chrysene	ug/kg	160 J	210000	66 J	12 J
Dibenz(a,h)anthracene	ug/kg	28 J	140000 U	8.7 J	17 J
Fluoranthene	ug/kg	380	**640000[d]**	200 J	25 J
Fluorene	ug/kg	46 J	**95000 J[d]**	34 J	340 U
Indeno(1,2,3-cd)pyrene	ug/kg	90 J	**89000 J[op]**	27 J	19 J
Naphthalene	ug/kg	76 J	**40000 J[bd]**	20 J	340 U

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB84-11	SB84-11	SB84-11	SB84-11 Excavation, East Wall
Sample Identification		SO-17360-021811-DR-088	SO-17360-021811-DR-087	SO-17360-021811-DR-089	SO-17360-061212-SM-006
Sample Date		2/18/2011	2/18/2011	2/18/2011	6/12/2012
Sample Type					
Sample Depth		(1-3) ft BGS	(3-5) ft BGS	(19-21) ft BGS	(4-) ft BGS
Excavation Status	Units	excavated	excavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Phenanthrene	ug/kg	430	**770000**[bcdghijkl]	260 J	8.6 J
Pyrene	ug/kg	270 J	430000	140 J	35 J
Total solids	%	--	--	--	97
Metals					
Antimony	ug/kg	92 J	54 J	180 UJ	--
Arsenic	ug/kg	2200	2900	1500	--
Barium	ug/kg	78500	46900	5000	--
Beryllium	ug/kg	170 U	170 U	180 U	--
Cadmium	ug/kg	85 U	84 U	88 U	--
Chromium	ug/kg	5500	7500	2700	--
Cobalt	ug/kg	2400	3500	1300	--
Copper	ug/kg	8500 J	12500 J	2800 J	--
Lead	ug/kg	14000	12700	1700	--
Manganese	ug/kg	233000 J	237000 J	79200 J	--
Mercury	ug/kg	42 U	42 U	44 U	--
Nickel	ug/kg	5600	6700	2900	--
Selenium	ug/kg	170	210	180 U	--
Silver	ug/kg	85 U	84 U	88 U	--
Thallium	ug/kg	85 U	84 U	88 U	--
Vanadium	ug/kg	8100	16300	4400	--
Zinc	ug/kg	18100	21500	8200	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U	290 U	--
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U	290 U	--
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U	290 U	--
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U	290 U	--
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U	290 U	--
Aroclor-1254 (PCB-1254)	ug/kg	280 U	110 J	290 U	--
Aroclor-1260 (PCB-1260)	ug/kg	280 U	280 U	290 U	--
Total PCBs	ug/kg	0	110 J	0	--

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB84-11 Excavation, Floor, Eas	SB84-11 Excavation, Floor, NW Corne	SB84-11 Excavation, Floor, SE corne
Sample Identification		**SO-17360-061212-SM-008**	**SO-17360-061212-SM-010**	**SO-17360-061212-SM-007**
Sample Date		**6/12/2012**	**6/12/2012**	**6/12/2012**
Sample Type				
Sample Depth		**(5-) ft BGS**	**(5-) ft BGS**	**(5-) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 17.1**	**AOI 17.1**	**AOI 17.1**
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--
2-Hexanone	ug/kg	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--
Acetone	ug/kg	--	--	--
Benzene	ug/kg	--	--	--
Bromodichloromethane	ug/kg	--	--	--
Bromoform	ug/kg	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--
Carbon disulfide	ug/kg	--	--	--
Carbon tetrachloride	ug/kg	--	--	--
Chlorobenzene	ug/kg	--	--	--
Chloroethane	ug/kg	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--
Cyclohexane	ug/kg	--	--	--
Dibromochloromethane	ug/kg	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--
Ethylbenzene	ug/kg	--	--	--

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
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Sample Location		SB84-11 Excavation, Floor, East	SB84-11 Excavation, Floor, NW Corner	SB84-11 Excavation, Floor, SE corne
Sample Identification		**SO-17360-061212-SM-008**	**SO-17360-061212-SM-010**	**SO-17360-061212-SM-007**
Sample Date		**6/12/2012**	**6/12/2012**	**6/12/2012**
Sample Type				
Sample Depth		**(5-) ft BGS**	**(5-) ft BGS**	**(5-) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 17.1**	**AOI 17.1**	**AOI 17.1**
Isopropyl benzene	ug/kg	--	--	--
Methyl acetate	ug/kg	--	--	--
Methyl cyclohexane	ug/kg	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--
Methylene chloride	ug/kg	--	--	--
Styrene	ug/kg	--	--	--
Tetrachloroethene	ug/kg	--	--	--
Toluene	ug/kg	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--
Trichloroethene	ug/kg	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--
Vinyl chloride	ug/kg	--	--	--
Xylenes (total)	ug/kg	--	--	--
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	3400 U	3.6 J	3400 U
Acenaphthene	ug/kg	58 J	51 J	63 J
Acenaphthylene	ug/kg	3400 U	680 U	3400 U
Anthracene	ug/kg	83 J	120 J	92 J
Benzo(a)anthracene	ug/kg	190 J	300 J	330 J
Benzo(a)pyrene	ug/kg	130 J	220 J	240 J
Benzo(b)fluoranthene	ug/kg	180 J	260 J	440 J
Benzo(g,h,i)perylene	ug/kg	190 J	140 J	250 J
Benzo(k)fluoranthene	ug/kg	91 J	130 J	130 J
Chrysene	ug/kg	200 J	230 J	340 J
Dibenz(a,h)anthracene	ug/kg	3400 U	62 J	170 J
Fluoranthene	ug/kg	510 J	690	860 J
Fluorene	ug/kg	25 J	39 J	18 J
Indeno(1,2,3-cd)pyrene	ug/kg	180 J	130 J	230 J
Naphthalene	ug/kg	40 J	10 J	3400 U

Table 3.21.1

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
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Sample Location		**SB84-11 Excavation, Floor, East**	**SB84-11 Excavation, Floor, NW Corner**	**SB84-11 Excavation, Floor, SE corner**
Sample Identification		**SO-17360-061212-SM-008**	**SO-17360-061212-SM-010**	**SO-17360-061212-SM-007**
Sample Date		**6/12/2012**	**6/12/2012**	**6/12/2012**
Sample Type				
Sample Depth		**(5-) ft BGS**	**(5-) ft BGS**	**(5-) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 17.1**	**AOI 17.1**	**AOI 17.1**
Phenanthrene	ug/kg	390 J	440 J	430 J
Pyrene	ug/kg	580 J	450 J	830 J
Total solids	%	96	97	96
Metals				
Antimony	ug/kg	--	--	--
Arsenic	ug/kg	--	--	--
Barium	ug/kg	--	--	--
Beryllium	ug/kg	--	--	--
Cadmium	ug/kg	--	--	--
Chromium	ug/kg	--	--	--
Cobalt	ug/kg	--	--	--
Copper	ug/kg	--	--	--
Lead	ug/kg	--	--	--
Manganese	ug/kg	--	--	--
Mercury	ug/kg	--	--	--
Nickel	ug/kg	--	--	--
Selenium	ug/kg	--	--	--
Silver	ug/kg	--	--	--
Thallium	ug/kg	--	--	--
Vanadium	ug/kg	--	--	--
Zinc	ug/kg	--	--	--
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--
Total PCBs	ug/kg	--	--	--

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Sample Location		SB84-11 Excavation, Floor, SW Corne	SB84-11 Excavation, North Wall	SB84-11 Excavation, South Wall, East
Sample Identification		SO-17360-061212-SM-009	SO-17360-061212-SM-001	SO-17360-061212-SM-005
Sample Date		6/12/2012	6/12/2012	6/12/2012
Sample Type				
Sample Depth		(5-) ft BGS	(3.5-) ft BGS	(4-) ft BGS
Excavation Status	Units	Unexcavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--
2-Hexanone	ug/kg	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--
Acetone	ug/kg	--	--	--
Benzene	ug/kg	--	--	--
Bromodichloromethane	ug/kg	--	--	--
Bromoform	ug/kg	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--
Carbon disulfide	ug/kg	--	--	--
Carbon tetrachloride	ug/kg	--	--	--
Chlorobenzene	ug/kg	--	--	--
Chloroethane	ug/kg	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--
Cyclohexane	ug/kg	--	--	--
Dibromochloromethane	ug/kg	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--
Ethylbenzene	ug/kg	--	--	--

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Sample Location		SB84-11 Excavation, Floor, SW Corne	SB84-11 Excavation, North Wall	SB84-11 Excavation, South Wall, East
Sample Identification		SO-17360-061212-SM-009	SO-17360-061212-SM-001	SO-17360-061212-SM-005
Sample Date		6/12/2012	6/12/2012	6/12/2012
Sample Type				
Sample Depth		(5-) ft BGS	(3.5-) ft BGS	(4-) ft BGS
Excavation Status	Units	Unexcavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	--	--	--
Methyl acetate	ug/kg	--	--	--
Methyl cyclohexane	ug/kg	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--
Methylene chloride	ug/kg	--	--	--
Styrene	ug/kg	--	--	--
Tetrachloroethene	ug/kg	--	--	--
Toluene	ug/kg	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--
Trichloroethene	ug/kg	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--
Vinyl chloride	ug/kg	--	--	--
Xylenes (total)	ug/kg	--	--	--
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	32 J	170 J	3500 U
Acenaphthene	ug/kg	170 J	1600 J	3500 U
Acenaphthylene	ug/kg	3400 U	14000 U	3500 U
Anthracene	ug/kg	300 J	4800 J	26 J
Benzo(a)anthracene	ug/kg	650 J	15000	160 J
Benzo(a)pyrene	ug/kg	450 J	**10000 J[op]**	120 J
Benzo(b)fluoranthene	ug/kg	670 J	14000	260 J
Benzo(g,h,i)perylene	ug/kg	400 J	6100 J	170 J
Benzo(k)fluoranthene	ug/kg	270 J	5000 J	89 J
Chrysene	ug/kg	530 J	12000 J	170 J
Dibenz(a,h)anthracene	ug/kg	210 J	**2100 J[o]**	3500 U
Fluoranthene	ug/kg	1400 J	**29000[d]**	370 J
Fluorene	ug/kg	120 J	1400 J	3500 U
Indeno(1,2,3-cd)pyrene	ug/kg	370 J	5600 J	170 J
Naphthalene	ug/kg	95 J	210 J	3500 U

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Sample Location		SB84-11 Excavation, Floor, SW Corne	SB84-11 Excavation, North Wall	SB84-11 Excavation, South Wall, East
Sample Identification		**SO-17360-061212-SM-009**	**SO-17360-061212-SM-001**	**SO-17360-061212-SM-005**
Sample Date		**6/12/2012**	**6/12/2012**	**6/12/2012**
Sample Type				
Sample Depth		**(5-) ft BGS**	**(3.5-) ft BGS**	**(4-) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**excavated**	**Unexcavated**
AOI		**AOI 17.1**	**AOI 17.1**	**AOI 17.1**
Phenanthrene	ug/kg	1200 J	**18000[d]**	180 J
Pyrene	ug/kg	1100 J	20000	460 J
Total solids	%	96	94	95
Metals				
Antimony	ug/kg	--	--	--
Arsenic	ug/kg	--	--	--
Barium	ug/kg	--	--	--
Beryllium	ug/kg	--	--	--
Cadmium	ug/kg	--	--	--
Chromium	ug/kg	--	--	--
Cobalt	ug/kg	--	--	--
Copper	ug/kg	--	--	--
Lead	ug/kg	--	--	--
Manganese	ug/kg	--	--	--
Mercury	ug/kg	--	--	--
Nickel	ug/kg	--	--	--
Selenium	ug/kg	--	--	--
Silver	ug/kg	--	--	--
Thallium	ug/kg	--	--	--
Vanadium	ug/kg	--	--	--
Zinc	ug/kg	--	--	--
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--
Total PCBs	ug/kg	--	--	--

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
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Sample Location		SB84-11 Excavation, South Wall, West	SB84-11 Excavation, South Wall, West	SB84-11 Excavation, West Wall	SB85A-11
Sample Identification		SO-17360-061212-SM-003	SO-17360-061212-SM-004	SO-17360-061212-SM-002	SO-17360-022811-DR-138
Sample Date		6/12/2012	6/12/2012	6/12/2012	2/28/2011
Sample Type			Duplicate		
Sample Depth		(4-) ft BGS	(4-) ft BGS	(3.5-) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	47 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	47 U
1,1,2-Trichloroethane	ug/kg	--	--	--	47 U
1,1-Dichloroethane	ug/kg	--	--	--	47 U
1,1-Dichloroethene	ug/kg	--	--	--	47 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	240 U
1,2-Dichlorobenzene	ug/kg	--	--	--	95 U
1,2-Dichloroethane	ug/kg	--	--	--	47 U
1,2-Dichloropropane	ug/kg	--	--	--	47 U
1,3-Dichlorobenzene	ug/kg	--	--	--	95 U
1,4-Dichlorobenzene	ug/kg	--	--	--	95 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	710 U
2-Hexanone	ug/kg	--	--	--	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	2400 U
Acetone	ug/kg	--	--	--	710 U
Benzene	ug/kg	--	--	--	47 U
Bromodichloromethane	ug/kg	--	--	--	95 U
Bromoform	ug/kg	--	--	--	95 U
Bromomethane (Methyl bromide)	ug/kg	--	--	--	240 U
Carbon disulfide	ug/kg	--	--	--	240 U
Carbon tetrachloride	ug/kg	--	--	--	47 U
Chlorobenzene	ug/kg	--	--	--	47 U
Chloroethane	ug/kg	--	--	--	240 U
Chloroform (Trichloromethane)	ug/kg	--	--	--	47 U
Chloromethane (Methyl chloride)	ug/kg	--	--	--	240 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	47 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	47 U
Cyclohexane	ug/kg	--	--	--	1100 U
Dibromochloromethane	ug/kg	--	--	--	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	95 U
Ethylbenzene	ug/kg	--	--	--	13 J

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Sample Location		SB84-11 Excavation, South Wall, West	SB84-11 Excavation, South Wall, West	SB84-11 Excavation, West Wall	SB85A-11
Sample Identification		SO-17360-061212-SM-003	SO-17360-061212-SM-004	SO-17360-061212-SM-002	SO-17360-022811-DR-138
Sample Date		6/12/2012	6/12/2012	6/12/2012	2/28/2011
Sample Type			Duplicate		
Sample Depth		(4-) ft BGS	(4-) ft BGS	(3.5-) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	--	--	--	240 U
Methyl acetate	ug/kg	--	--	--	1100 U
Methyl cyclohexane	ug/kg	--	--	--	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	240 U
Methylene chloride	ug/kg	--	--	--	240 U
Styrene	ug/kg	--	--	--	47 U
Tetrachloroethene	ug/kg	--	--	--	47 U
Toluene	ug/kg	--	--	--	95 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	47 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	47 U
Trichloroethene	ug/kg	--	--	--	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	95 U
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	240 U
Vinyl chloride	ug/kg	--	--	--	38 U
Xylenes (total)	ug/kg	--	--	--	130 J
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	130 J	36 J	1700 U	2700 U
Acenaphthene	ug/kg	800 J	500 J	1700 U	2700 U
Acenaphthylene	ug/kg	3400 U	3800 U	1700 U	2700 U
Anthracene	ug/kg	1800 J	1100 J	1700 U	2700 U
Benzo(a)anthracene	ug/kg	3200 J	2700 J	100 J	110 J
Benzo(a)pyrene	ug/kg	**2100 J[o]**	2000 J	91 J	120 J
Benzo(b)fluoranthene	ug/kg	2600 J	2700 J	190 J	180 J
Benzo(g,h,i)perylene	ug/kg	1200 J	1300 J	110 J	210 J
Benzo(k)fluoranthene	ug/kg	1700 J	1300 J	50 J	2700 U
Chrysene	ug/kg	2700 J	2500 J	120 J	180 J
Dibenz(a,h)anthracene	ug/kg	410 J	460 J	75 J	2700 U
Fluoranthene	ug/kg	**7300[d]**	**6300[d]**	220 J	220 J
Fluorene	ug/kg	730 J	440 J	1700 U	2700 U
Indeno(1,2,3-cd)pyrene	ug/kg	1200 J	1200 J	120 J	140 J
Naphthalene	ug/kg	240 J	71 J	1700 U	2700 U

Table 3.21.1

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Sample Location		SB84-11 Excavation, South Wall, West	SB84-11 Excavation, South Wall, West	SB84-11 Excavation, West Wall	SB85A-11
Sample Identification		**SO-17360-061212-SM-003**	**SO-17360-061212-SM-004**	**SO-17360-061212-SM-002**	**SO-17360-022811-DR-138**
Sample Date		**6/12/2012**	**6/12/2012**	**6/12/2012**	**2/28/2011**
Sample Type			**Duplicate**		
Sample Depth		**(4-) ft BGS**	**(4-) ft BGS**	**(3.5-) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 17.1**	**AOI 17.1**	**AOI 17.1**	**AOI 17.1**
Phenanthrene	ug/kg	**7000[d]**	**4900[d]**	81 J	120 J
Pyrene	ug/kg	5700	4400	250 J	170 J
Total solids	%	97	87	95	--
Metals					
Antimony	ug/kg	--	--	--	160 UJ
Arsenic	ug/kg	--	--	--	1400
Barium	ug/kg	--	--	--	16600
Beryllium	ug/kg	--	--	--	160 U
Cadmium	ug/kg	--	--	--	82 U
Chromium	ug/kg	--	--	--	5500
Cobalt	ug/kg	--	--	--	2400
Copper	ug/kg	--	--	--	3900
Lead	ug/kg	--	--	--	5000
Manganese	ug/kg	--	--	--	96800 J
Mercury	ug/kg	--	--	--	41 U
Nickel	ug/kg	--	--	--	4700
Selenium	ug/kg	--	--	--	160 J
Silver	ug/kg	--	--	--	82 U
Thallium	ug/kg	--	--	--	82 U
Vanadium	ug/kg	--	--	--	9500
Zinc	ug/kg	--	--	--	12900
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	270 U
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	270 U
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	270 U
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	270 U
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	270 U
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	200 J
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	270 U
Total PCBs	ug/kg	--	--	--	200 J

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Sample Location		SB85A-11	SB85A-11	SB86-11	SB86-11	SB87-11
Sample Identification		SO-17360-022811-DR-139	SO-17360-022811-DR-140	SO-17360-022511-DR-130	SO-17360-022511-DR-131	SO-17360-021811-DR-085
Sample Date		2/28/2011	2/28/2011	2/25/2011	2/25/2011	2/18/2011
Sample Type		Duplicate				
Sample Depth		(1-3) ft BGS	(19-21) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,1,2-Trichloroethane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,1-Dichloroethane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,1-Dichloroethene	ug/kg	44 U	42 U	47 U	54 U	42 U
1,2,4-Trichlorobenzene	ug/kg	220 U	210 U	230 U	270 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	210 U	230 UJ	270 UJ	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	210 U	230 U	270 U	210 U
1,2-Dichlorobenzene	ug/kg	88 U	84 U	94 U	110 U	85 U
1,2-Dichloroethane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,2-Dichloropropane	ug/kg	44 U	42 U	47 U	54 U	42 U
1,3-Dichlorobenzene	ug/kg	88 U	84 U	94 U	110 U	85 U
1,4-Dichlorobenzene	ug/kg	88 U	84 U	94 U	110 U	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	630 U	700 U	810 U	640 U
2-Hexanone	ug/kg	2200 U	2100 U	2300 U	2700 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2100 U	2300 U	2700 U	2100 U
Acetone	ug/kg	660 U	630 U	700 UJ	810 UJ	640 U
Benzene	ug/kg	44 U	42 U	47 U	54 U	42 U
Bromodichloromethane	ug/kg	88 U	84 U	94 U	110 U	85 U
Bromoform	ug/kg	88 U	84 U	94 UJ	110 UJ	85 U
Bromomethane (Methyl bromide)	ug/kg	220 U	210 U	230 U	270 U	210 U
Carbon disulfide	ug/kg	220 U	210 U	230 U	270 U	210 U
Carbon tetrachloride	ug/kg	44 U	42 U	47 U	54 U	42 U
Chlorobenzene	ug/kg	44 U	42 U	47 U	54 U	42 U
Chloroethane	ug/kg	220 U	210 U	230 U	270 U	210 U
Chloroform (Trichloromethane)	ug/kg	44 U	42 U	47 U	54 U	42 U
Chloromethane (Methyl chloride)	ug/kg	220 U	210 U	230 U	270 U	210 U
cis-1,2-Dichloroethene	ug/kg	44 U	42 U	47 U	54 U	42 U
cis-1,3-Dichloropropene	ug/kg	44 U	42 U	47 U	54 U	42 U
Cyclohexane	ug/kg	1100 U	1000 U	1100 U	1300 U	1000 U
Dibromochloromethane	ug/kg	44 U	42 U	47 U	54 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	84 U	94 U	110 U	85 U
Ethylbenzene	ug/kg	44 U	42 U	47 U	54 U	42 U

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Sample Location		SB85A-11	SB85A-11	SB86-11	SB86-11	SB87-11
Sample Identification		SO-17360-022811-DR-139	SO-17360-022811-DR-140	SO-17360-022511-DR-130	SO-17360-022511-DR-131	SO-17360-021811-DR-085
Sample Date		2/28/2011	2/28/2011	2/25/2011	2/25/2011	2/18/2011
Sample Type		Duplicate				
Sample Depth		(1-3) ft BGS	(19-21) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	220 U	210 U	230 U	270 U	210 U
Methyl acetate	ug/kg	48 J	83 J	1100 U	1300 U	1000 U
Methyl cyclohexane	ug/kg	1100 U	1000 U	1100 U	1300 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	210 U	230 U	270 U	210 U
Methylene chloride	ug/kg	220 U	210 U	230 U	270 U	210 U
Styrene	ug/kg	44 U	42 U	47 U	54 U	42 U
Tetrachloroethene	ug/kg	44 U	26 J	47 U	54 U	42 U
Toluene	ug/kg	88 U	84 U	94 U	110 U	85 U
trans-1,2-Dichloroethene	ug/kg	44 U	42 U	47 U	54 U	42 U
trans-1,3-Dichloropropene	ug/kg	44 U	42 U	47 U	54 U	42 U
Trichloroethene	ug/kg	44 U	42 U	47 U	54 U	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	84 U	94 U	110 U	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	210 U	230 U	270 U	210 U
Vinyl chloride	ug/kg	35 U	34 U	38 U	43 U	34 U
Xylenes (total)	ug/kg	31 J	130 U	140 U	160 U	130 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	5400 U	14000 U	8.0 J	310 U	270 U
Acenaphthene	ug/kg	5400 U	14000 U	270 U	310 U	270 U
Acenaphthylene	ug/kg	5400 U	14000 U	270 U	310 U	270 U
Anthracene	ug/kg	5400 U	14000 U	270 U	310 U	270 U
Benzo(a)anthracene	ug/kg	5400 U	14000 U	270 U	22 J	270 U
Benzo(a)pyrene	ug/kg	5400 U	14000 U	270 U	16 J	270 U
Benzo(b)fluoranthene	ug/kg	140 J	14000 U	270 U	27 J	270 U
Benzo(g,h,i)perylene	ug/kg	210 J	14000 U	270 U	13 J	270 U
Benzo(k)fluoranthene	ug/kg	5400 U	14000 U	270 U	11 J	270 U
Chrysene	ug/kg	170 J	14000 U	270 U	24 J	270 U
Dibenz(a,h)anthracene	ug/kg	5400 U	14000 U	270 U	310 U	270 U
Fluoranthene	ug/kg	190 J	14000 U	15 J	60 J	18 J
Fluorene	ug/kg	5400 U	14000 U	270 U	310 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	5400 U	14000 U	270 U	9.7 J	270 U
Naphthalene	ug/kg	5400 U	14000 U	14 J	10 J	270 U

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Sample Location		SB85A-11	SB85A-11	SB86-11	SB86-11	SB87-11
Sample Identification		SO-17360-022811-DR-139	SO-17360-022811-DR-140	SO-17360-022511-DR-130	SO-17360-022511-DR-131	SO-17360-021811-DR-085
Sample Date		2/28/2011	2/28/2011	2/25/2011	2/25/2011	2/18/2011
Sample Type		Duplicate				
Sample Depth		(1-3) ft BGS	(19-21) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Phenanthrene	ug/kg	5400 U	14000 U	18 J	45 J	19 J
Pyrene	ug/kg	5400 U	14000 U	11 J	44 J	14 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	160 UJ	160 UJ	160 UJ	190 UJ	28 J
Arsenic	ug/kg	1600	1600	1700 J	300 J	1300
Barium	ug/kg	16300	4800	9000	12300	24800
Beryllium	ug/kg	160 U	160 U	160 U	190 U	170 U
Cadmium	ug/kg	82 U	82 U	82 U	83 J	83 U
Chromium	ug/kg	6300	3900	4900	5100	4400
Cobalt	ug/kg	2200	2100	2300	1300	1900
Copper	ug/kg	3600	5000	5800	4700	2800 J
Lead	ug/kg	4400	2100	4000	2800	3300
Manganese	ug/kg	92300 J	102000 J	146000	22800	158000 J
Mercury	ug/kg	41 U	41 U	41 U	47 U	42 U
Nickel	ug/kg	4400	3800	4900	2900	3600
Selenium	ug/kg	110 J	160 UJ	95 J	160 J	150 J
Silver	ug/kg	82 U	82 U	82 U	94 U	83 U
Thallium	ug/kg	82 U	82 U	82 U	94 U	83 U
Vanadium	ug/kg	7600	6200	6400	4700	7100
Zinc	ug/kg	12500	9900	10700	10600	13100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	270 U	310 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	270 U	310 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	270 U	310 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	270 U	310 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	270 U	310 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	350	270 U	270 U	310 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	270 U	310 U	270 U
Total PCBs	ug/kg	350	0	0	0	0

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Sample Location		SB87-11	SB137-11	SB137-11	SB138-11	SB138-11
Sample Identification		SO-17360-021811-DR-086	S-17360-092911-EM-069	S-17360-092911-EM-070	S-17360-092811-EM-065	S-17360-092811-EM-066
Sample Date		2/18/2011	9/29/2011	9/29/2011	9/28/2011	9/28/2011
Sample Type						
Sample Depth		(18-20) ft BGS	(0.7-2.7) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	excavated	Unexcavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,1,2-Trichloroethane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,1-Dichloroethane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,1-Dichloroethene	ug/kg	41 U	49 U	47 U	43 U	47 U
1,2,4-Trichlorobenzene	ug/kg	210 U	240 U	230 U	210 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	240 U	230 U	210 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	240 U	230 U	210 U	240 U
1,2-Dichlorobenzene	ug/kg	83 U	98 U	94 U	85 U	95 U
1,2-Dichloroethane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,2-Dichloropropane	ug/kg	41 U	49 U	47 U	43 U	47 U
1,3-Dichlorobenzene	ug/kg	83 U	98 U	94 U	85 U	95 U
1,4-Dichlorobenzene	ug/kg	83 U	98 U	94 U	85 U	95 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	620 U	61 J	110 J	66 J	62 J
2-Hexanone	ug/kg	2100 U	2400 U	2300 U	2100 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2400 U	2300 U	2100 U	2400 U
Acetone	ug/kg	620 U	R	R	R	R
Benzene	ug/kg	41 U	49 U	47 U	43 U	47 U
Bromodichloromethane	ug/kg	83 U	98 U	94 U	85 U	95 U
Bromoform	ug/kg	83 U	98 U	94 U	85 U	95 U
Bromomethane (Methyl bromide)	ug/kg	210 U	240 U	230 U	210 U	240 U
Carbon disulfide	ug/kg	210 U	240 U	230 U	210 U	240 U
Carbon tetrachloride	ug/kg	41 U	49 U	47 U	43 U	47 U
Chlorobenzene	ug/kg	41 U	49 U	47 U	43 U	47 U
Chloroethane	ug/kg	210 U	240 U	230 U	210 U	240 U
Chloroform (Trichloromethane)	ug/kg	41 U	49 U	47 U	43 U	47 U
Chloromethane (Methyl chloride)	ug/kg	210 U	240 U	230 U	210 U	240 U
cis-1,2-Dichloroethene	ug/kg	41 U	49 U	47 U	43 U	47 U
cis-1,3-Dichloropropene	ug/kg	41 U	49 U	47 U	43 U	47 U
Cyclohexane	ug/kg	990 U	1200 U	1100 U	1000 U	1100 U
Dibromochloromethane	ug/kg	41 U	49 U	47 U	43 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	83 U	98 U	94 U	85 U	95 U
Ethylbenzene	ug/kg	41 U	49 U	47 U	43 U	47 U

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Sample Location		SB87-11	SB137-11	SB137-11	SB138-11	SB138-11
Sample Identification		SO-17360-021811-DR-086	S-17360-092911-EM-069	S-17360-092911-EM-070	S-17360-092811-EM-065	S-17360-092811-EM-066
Sample Date		2/18/2011	9/29/2011	9/29/2011	9/28/2011	9/28/2011
Sample Type						
Sample Depth		(18-20) ft BGS	(0.7-2.7) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	excavated	Unexcavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	210 U	240 U	230 U	210 U	240 U
Methyl acetate	ug/kg	49 J	1200 U	1100 U	1000 U	1100 U
Methyl cyclohexane	ug/kg	990 U	76 J	1100 U	19 J	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	240 U	230 U	210 U	240 U
Methylene chloride	ug/kg	**190 J[bc]**	240 U	230 U	210 U	240 U
Styrene	ug/kg	41 U	49 U	47 U	43 U	47 U
Tetrachloroethene	ug/kg	41 U	49 U	47 U	43 U	47 U
Toluene	ug/kg	83 U	35 J	94 U	85 U	95 U
trans-1,2-Dichloroethene	ug/kg	41 U	49 U	47 U	43 U	47 U
trans-1,3-Dichloropropene	ug/kg	41 U	49 U	47 U	43 U	47 U
Trichloroethene	ug/kg	41 U	49 U	47 U	43 U	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	83 U	98 U	94 U	85 U	95 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	240 U	230 U	210 U	240 U
Vinyl chloride	ug/kg	33 U	39 U	38 U	34 U	38 U
Xylenes (total)	ug/kg	120 U	68 J	140 U	130 U	140 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	360	270 U	4.2 J	270 U
Acenaphthene	ug/kg	270 U	6.3 J	270 U	270 U	270 U
Acenaphthylene	ug/kg	270 U	280 U	270 U	270 U	270 U
Anthracene	ug/kg	270 U	5.1 J	270 U	270 U	270 U
Benzo(a)anthracene	ug/kg	270 U	23 J	4.4 J	270 U	270 U
Benzo(a)pyrene	ug/kg	270 U	15 J	270 U	270 U	270 U
Benzo(b)fluoranthene	ug/kg	270 U	21 J	4.7 J	270 U	270 U
Benzo(g,h,i)perylene	ug/kg	270 U	9.7 J	270 U	270 U	270 U
Benzo(k)fluoranthene	ug/kg	270 U	12 J	270 U	270 U	270 U
Chrysene	ug/kg	270 U	29 J	4.9 J	270 U	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	280 U	270 U	270 U	270 U
Fluoranthene	ug/kg	270 U	33 J	10 J	3.4 J	270 U
Fluorene	ug/kg	270 U	5.1 J	270 U	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	8.7 J	270 U	270 U	270 U
Naphthalene	ug/kg	270 U	280	270 U	270 U	270 U

Table 3.21.1

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Sample Location		SB87-11	SB137-11	SB137-11	SB138-11	SB138-11
Sample Identification		SO-17360-021811-DR-086	S-17360-092911-EM-069	S-17360-092911-EM-070	S-17360-092811-EM-065	S-17360-092811-EM-066
Sample Date		2/18/2011	9/29/2011	9/29/2011	9/28/2011	9/28/2011
Sample Type						
Sample Depth		(18-20) ft BGS	(0.7-2.7) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	excavated	Unexcavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Phenanthrene	ug/kg	270 U	100 J	10 J	6.0 J	270 U
Pyrene	ug/kg	270 U	27 J	7.3 J	270 U	270 U
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	170 UJ	150 U	150 U	140 U	160 U
Arsenic	ug/kg	1100	1200	1100	1600	1600
Barium	ug/kg	9700	30000	3100	25000	4200
Beryllium	ug/kg	170 U	150	150 U	160	160 U
Cadmium	ug/kg	83 U	48 J	75 U	40 J	79 U
Chromium	ug/kg	5100	5700	2200	6100	2700
Cobalt	ug/kg	1900	2200	920	2300	1200
Copper	ug/kg	2700 J	3700	1600	3400	2600
Lead	ug/kg	2000	13000	900	6900	1400
Manganese	ug/kg	44800 J	170000	53000	110000	73000
Mercury	ug/kg	41 U	35 U	38 U	24 J	31 U
Nickel	ug/kg	4200	4300	2100	4700	2700
Selenium	ug/kg	130 J	180 J	97 J	160 J	120 J
Silver	ug/kg	83 U	73 U	75 U	69 U	79 U
Thallium	ug/kg	83 U	73 U	75 U	72 U	79 U
Vanadium	ug/kg	6800	8900	3400	8200	3900
Zinc	ug/kg	7600	13000	4700	10000	5600
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	35 U	34 U	34 U	34 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	35 U	34 U	100	34 U
Total PCBs	ug/kg	0	0	0	100	0

Table 3.21.1

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
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Sample Location		SB139-11	SB139-11	SB140-11	SB140-11	SB140-11
Sample Identification		S-17360-092811-EM-067	S-17360-092811-EM-068	S-17360-092811-EM-062	S-17360-092811-EM-063	S-17360-092811-EM-064
Sample Date		9/28/2011	9/28/2011	9/28/2011	9/28/2011	9/28/2011
Sample Type					Duplicate	
Sample Depth		(1.5-3.5) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,1,2-Trichloroethane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,1-Dichloroethane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,1-Dichloroethene	ug/kg	45 U	51 U	41 U	46 U	49 U
1,2,4-Trichlorobenzene	ug/kg	230 U	260 U	200 U	230 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	260 U	200 U	230 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	260 U	200 U	230 U	240 U
1,2-Dichlorobenzene	ug/kg	90 U	100 U	82 U	91 U	97 U
1,2-Dichloroethane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,2-Dichloropropane	ug/kg	45 U	51 U	41 U	46 U	49 U
1,3-Dichlorobenzene	ug/kg	90 U	100 U	82 U	91 U	97 U
1,4-Dichlorobenzene	ug/kg	90 U	100 U	82 U	91 U	97 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	79 J	60 J	54 J	68 J	96 J
2-Hexanone	ug/kg	2300 U	2600 U	2000 U	2300 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2600 U	2000 U	2300 U	2400 U
Acetone	ug/kg	R	R	R	R	R
Benzene	ug/kg	45 U	51 U	41 U	46 U	49 U
Bromodichloromethane	ug/kg	90 U	100 U	82 U	91 U	97 U
Bromoform	ug/kg	90 U	100 U	82 U	91 U	97 U
Bromomethane (Methyl bromide)	ug/kg	230 U	260 U	200 U	230 U	240 U
Carbon disulfide	ug/kg	230 U	260 U	200 U	230 U	240 U
Carbon tetrachloride	ug/kg	45 U	51 U	41 U	46 U	49 U
Chlorobenzene	ug/kg	45 U	51 U	41 U	46 U	49 U
Chloroethane	ug/kg	230 U	260 U	200 U	230 U	240 U
Chloroform (Trichloromethane)	ug/kg	45 U	51 U	41 U	46 U	49 U
Chloromethane (Methyl chloride)	ug/kg	230 U	260 U	200 U	230 U	240 U
cis-1,2-Dichloroethene	ug/kg	45 U	51 U	41 U	46 U	49 U
cis-1,3-Dichloropropene	ug/kg	45 U	51 U	41 U	46 U	49 U
Cyclohexane	ug/kg	1100 U	1200 U	980 U	1100 U	1200 U
Dibromochloromethane	ug/kg	45 U	51 U	41 U	46 U	49 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	100 U	82 U	91 U	97 U
Ethylbenzene	ug/kg	45 U	51 U	41 U	46 U	49 U

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB139-11	SB139-11	SB140-11	SB140-11	SB140-11
Sample Identification		S-17360-092811-EM-067	S-17360-092811-EM-068	S-17360-092811-EM-062	S-17360-092811-EM-063	S-17360-092811-EM-064
Sample Date		9/28/2011	9/28/2011	9/28/2011	9/28/2011	9/28/2011
Sample Type					Duplicate	
Sample Depth		(1.5-3.5) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Isopropyl benzene	ug/kg	9.1 J	260 U	200 U	230 U	240 U
Methyl acetate	ug/kg	1100 U	1200 U	980 U	1100 U	1200 U
Methyl cyclohexane	ug/kg	86 J	1200 U	980 U	1100 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	260 U	200 U	230 U	240 U
Methylene chloride	ug/kg	230 U	260 U	200 U	230 U	240 U
Styrene	ug/kg	45 U	51 U	41 U	46 U	49 U
Tetrachloroethene	ug/kg	45 U	51 U	41 U	46 U	49 U
Toluene	ug/kg	30 J	100 U	82 U	91 U	97 U
trans-1,2-Dichloroethene	ug/kg	45 U	51 U	41 U	46 U	49 U
trans-1,3-Dichloropropene	ug/kg	45 U	51 U	41 U	46 U	49 U
Trichloroethene	ug/kg	45 U	51 U	41 U	46 U	49 U
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	100 U	82 U	91 U	97 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	260 U	200 U	230 U	240 U
Vinyl chloride	ug/kg	36 U	41 U	33 U	36 U	39 U
Xylenes (total)	ug/kg	69 J	150 U	120 U	140 U	150 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	120 J	120 J	48 J	280 U	290 U
Acenaphthene	ug/kg	8.0 J	160 J	280 U	280 U	290 U
Acenaphthylene	ug/kg	5.3 J	4500 U	4.7 J	280 U	290 U
Anthracene	ug/kg	18 J	300 J	11 J	280 U	290 U
Benzo(a)anthracene	ug/kg	64 J	410 J	75 J	280 U	290 U
Benzo(a)pyrene	ug/kg	55 J	270 J	60 J	280 U	290 U
Benzo(b)fluoranthene	ug/kg	110 J	410 J	110 J	4.1 J	290 U
Benzo(g,h,i)perylene	ug/kg	59 J	190 J	49 J	280 U	290 U
Benzo(k)fluoranthene	ug/kg	41 J	140 J	32 J	280 U	290 U
Chrysene	ug/kg	98 J	380 J	89 J	280 U	290 U
Dibenz(a,h)anthracene	ug/kg	14 J	4500 U	13 J	280 U	290 U
Fluoranthene	ug/kg	160 J	1000 J	140 J	5.6 J	290 U
Fluorene	ug/kg	5.7 J	170 J	280 U	280 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	48 J	160 J	40 J	280 U	290 U
Naphthalene	ug/kg	74 J	180 J	32 J	280 U	290 U

Table 3.21.1

Soil Sample Analytical Results - AOI 17.1 –Main Manufacturing Building Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB139-11	SB139-11	SB140-11	SB140-11	SB140-11
Sample Identification		S-17360-092811-EM-067	S-17360-092811-EM-068	S-17360-092811-EM-062	S-17360-092811-EM-063	S-17360-092811-EM-064
Sample Date		9/28/2011	9/28/2011	9/28/2011	9/28/2011	9/28/2011
Sample Type					Duplicate	
Sample Depth		(1.5-3.5) ft BGS	(16-18) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	Unexcavated
AOI		AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1	AOI 17.1
Phenanthrene	ug/kg	150 J	1200 J	70 J	280 U	290 U
Pyrene	ug/kg	100 J	730 J	110 J	5.0 J	290 U
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	150 U	170 U	160 U	150 U	170 U
Arsenic	ug/kg	2800	1600	2900	1600	1500
Barium	ug/kg	43000	5600	22000	21000	5300
Beryllium	ug/kg	200	63 J	160	200	64 J
Cadmium	ug/kg	110	87 U	87	76 U	39 J
Chromium	ug/kg	5800	4200	8400	9900	2700
Cobalt	ug/kg	2600	1400	3200	3600	1700
Copper	ug/kg	9500	3900	7000	5700	6500
Lead	ug/kg	17000	1600	6700	3600	1500
Manganese	ug/kg	210000	87000	210000	150000	74000
Mercury	ug/kg	19 J	32 U	16 J	36 U	36 U
Nickel	ug/kg	5700	3300	6600	7800	2800
Selenium	ug/kg	270 J	140 J	260 J	250 J	170 J
Silver	ug/kg	19 J	87 U	82 U	76 U	84 U
Thallium	ug/kg	91 U	87 U	98 U	76 U	84 U
Vanadium	ug/kg	8000	4800	10000	14000	4400
Zinc	ug/kg	17000	8000	24000	14000	7000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	35 UJ	37 U	35 U	35 U	36 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB88-11	SB88-11	SB89-11	SB89-11	SB90-11
Sample Identification		SO-17360-030311-DR-176	SO-17360-030311-DR-177	SO-17360-030311-DR-174	SO-17360-030311-DR-175	SO-17360-030311-DR-172
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(12-14) ft BGS	(1-3) ft BGS	(12-14) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,1,2-Trichloroethane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,1-Dichloroethane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,1-Dichloroethene	ug/kg	41 U	43 U	51 U	43 U	44 U
1,2,4-Trichlorobenzene	ug/kg	200 U	220 U	250 U	210 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	220 U	250 U	210 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	220 U	250 U	210 U	220 U
1,2-Dichlorobenzene	ug/kg	81 U	86 U	100 U	85 U	89 U
1,2-Dichloroethane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,2-Dichloropropane	ug/kg	41 U	43 U	51 U	43 U	44 U
1,3-Dichlorobenzene	ug/kg	81 U	86 U	100 U	85 U	89 U
1,4-Dichlorobenzene	ug/kg	81 U	86 U	100 U	85 U	89 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	56 J	650 U	760 U	640 U	91 J
2-Hexanone	ug/kg	2000 U	2200 U	2500 U	2100 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2200 U	2500 U	2100 U	2200 U
Acetone	ug/kg	610 U	650 U	760 U	640 U	210 J
Benzene	ug/kg	41 U	43 U	51 U	43 U	44 U
Bromodichloromethane	ug/kg	81 U	86 U	100 U	85 U	89 U
Bromoform	ug/kg	81 U	86 U	100 U	85 U	89 U
Bromomethane (Methyl bromide)	ug/kg	200 U	220 U	250 U	210 U	220 U
Carbon disulfide	ug/kg	200 U	220 U	250 U	210 U	220 U
Carbon tetrachloride	ug/kg	41 U	43 U	51 U	43 U	44 U
Chlorobenzene	ug/kg	41 U	43 U	51 U	43 U	44 U
Chloroethane	ug/kg	200 U	220 U	250 U	210 U	220 U
Chloroform (Trichloromethane)	ug/kg	41 U	43 U	51 U	43 U	44 U
Chloromethane (Methyl chloride)	ug/kg	200 U	220 U	250 U	210 U	220 U
cis-1,2-Dichloroethene	ug/kg	41 U	43 U	51 U	43 U	44 U
cis-1,3-Dichloropropene	ug/kg	41 U	43 U	51 U	43 U	44 U
Cyclohexane	ug/kg	980 U	1000 U	1200 U	1000 U	1100 U
Dibromochloromethane	ug/kg	41 U	43 U	51 U	43 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	81 U	86 U	100 U	85 U	89 U
Ethylbenzene	ug/kg	41 U	43 U	51 U	43 U	44 U

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB88-11**	**SB88-11**	**SB89-11**	**SB89-11**	**SB90-11**
Sample Identification		**SO-17360-030311-DR-176**	**SO-17360-030311-DR-177**	**SO-17360-030311-DR-174**	**SO-17360-030311-DR-175**	**SO-17360-030311-DR-172**
Sample Date		**3/3/2011**	**3/3/2011**	**3/3/2011**	**3/3/2011**	**3/3/2011**
Sample Type						
Sample Depth		**(1-3) ft BGS**	**(12-14) ft BGS**	**(1-3) ft BGS**	**(12-14) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 17.2**	**AOI 17.2**	**AOI 17.2**	**AOI 17.2**	**AOI 17.2**
Isopropyl benzene	ug/kg	200 U	220 U	250 U	210 U	220 U
Methyl acetate	ug/kg	1000	1000 U	1200 U	1000 U	1100 U
Methyl cyclohexane	ug/kg	25 J	1000 U	1200 U	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	220 U	250 U	210 U	220 U
Methylene chloride	ug/kg	200 U	220 U	250 U	210 U	220 U
Styrene	ug/kg	41 U	43 U	51 U	43 U	44 U
Tetrachloroethene	ug/kg	41 U	43 U	51 U	43 U	44 U
Toluene	ug/kg	81 U	86 U	100 U	85 U	89 U
trans-1,2-Dichloroethene	ug/kg	41 U	43 U	51 U	43 U	44 U
trans-1,3-Dichloropropene	ug/kg	41 U	43 U	51 U	43 U	44 U
Trichloroethene	ug/kg	41 U	43 U	51 U	43 U	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	81 U	86 U	100 U	85 U	89 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	220 U	250 U	210 U	220 U
Vinyl chloride	ug/kg	33 U	35 U	41 U	34 U	35 U
Xylenes (total)	ug/kg	15 J	130 U	150 U	130 U	130 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Acenaphthene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Acenaphthylene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Anthracene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Benzo(a)anthracene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Benzo(a)pyrene	ug/kg	2800 U	270 U	270 U	270 U	11 J
Benzo(b)fluoranthene	ug/kg	2800 U	270 U	270 U	270 U	20 J
Benzo(g,h,i)perylene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Benzo(k)fluoranthene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Chrysene	ug/kg	2800 U	270 U	270 U	270 U	13 J
Dibenz(a,h)anthracene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Fluoranthene	ug/kg	2800 U	270 U	270 U	270 U	20 J
Fluorene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Naphthalene	ug/kg	2800 U	270 U	270 U	270 U	270 U
Phenanthrene	ug/kg	2800 U	270 U	270 U	270 U	7.8 J
Pyrene	ug/kg	2800 U	270 U	270 U	270 U	16 J

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB88-11	SB88-11	SB89-11	SB89-11	SB90-11
Sample Identification		SO-17360-030311-DR-176	SO-17360-030311-DR-177	SO-17360-030311-DR-174	SO-17360-030311-DR-175	SO-17360-030311-DR-172
Sample Date		3/3/2011	3/3/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(12-14) ft BGS	(1-3) ft BGS	(12-14) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2	AOI 17.2
Metals						
Antimony	ug/kg	63 J	160 UJ	170 UJ	160 UJ	27 J
Arsenic	ug/kg	2100 J	1100 J	1100 J	1400 J	1100 J
Barium	ug/kg	31500	4800	12300	5700	19200
Beryllium	ug/kg	170 U	160 U	170 U	160 U	160 U
Cadmium	ug/kg	300	82 U	83 U	82 U	82 U
Chromium	ug/kg	8900	4000	5800	8700	4500
Cobalt	ug/kg	2800	2100	1800	3000	1800
Copper	ug/kg	9600	4000	2900	6000	3700
Lead	ug/kg	23400	1500	2200	2300	9000
Manganese	ug/kg	190000 J	92000 J	54200 J	140000 J	84700 J
Mercury	ug/kg	42 U	41 U	41 U	41 U	16 J
Nickel	ug/kg	6500	4400	4900	6900	4000
Selenium	ug/kg	210 J	96 J	120 J	94 J	100 J
Silver	ug/kg	84 U	82 U	83 U	82 U	82 U
Thallium	ug/kg	84 U	82 U	83 U	82 U	82 U
Vanadium	ug/kg	11200	5800	7400	10200	7400
Zinc	ug/kg	25200	8000	9300	15800	27900
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U	270 U	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	21 J	270 U	270 U	270 U	270 U
Total PCBs	ug/kg	21 J	0	0	0	0

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB90-11**
Sample Identification		**SO-17360-030311-DR-173**
Sample Date		**3/3/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 17.2**
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	ug/kg	43 U
1,1,2,2-Tetrachloroethane	ug/kg	43 U
1,1,2-Trichloroethane	ug/kg	43 U
1,1-Dichloroethane	ug/kg	43 U
1,1-Dichloroethene	ug/kg	43 U
1,2,4-Trichlorobenzene	ug/kg	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U
1,2-Dichlorobenzene	ug/kg	86 U
1,2-Dichloroethane	ug/kg	43 U
1,2-Dichloropropane	ug/kg	43 U
1,3-Dichlorobenzene	ug/kg	86 U
1,4-Dichlorobenzene	ug/kg	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	650 U
2-Hexanone	ug/kg	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U
Acetone	ug/kg	650 U
Benzene	ug/kg	43 U
Bromodichloromethane	ug/kg	86 U
Bromoform	ug/kg	86 U
Bromomethane (Methyl bromide)	ug/kg	220 U
Carbon disulfide	ug/kg	220 U
Carbon tetrachloride	ug/kg	43 U
Chlorobenzene	ug/kg	43 U
Chloroethane	ug/kg	220 U
Chloroform (Trichloromethane)	ug/kg	43 U
Chloromethane (Methyl chloride)	ug/kg	220 U
cis-1,2-Dichloroethene	ug/kg	43 U
cis-1,3-Dichloropropene	ug/kg	43 U
Cyclohexane	ug/kg	1000 U
Dibromochloromethane	ug/kg	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	86 U
Ethylbenzene	ug/kg	43 U

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB90-11**
Sample Identification		**SO-17360-030311-DR-173**
Sample Date		**3/3/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 17.2**
Isopropyl benzene	ug/kg	220 U
Methyl acetate	ug/kg	1000 U
Methyl cyclohexane	ug/kg	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U
Methylene chloride	ug/kg	220 U
Styrene	ug/kg	43 U
Tetrachloroethene	ug/kg	43 U
Toluene	ug/kg	86 U
trans-1,2-Dichloroethene	ug/kg	43 U
trans-1,3-Dichloropropene	ug/kg	43 U
Trichloroethene	ug/kg	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U
Vinyl chloride	ug/kg	35 U
Xylenes (total)	ug/kg	130 U
Semi-Volatile Organic Compounds (SVOCs)		
2-Methylnaphthalene	ug/kg	270 U
Acenaphthene	ug/kg	270 U
Acenaphthylene	ug/kg	270 U
Anthracene	ug/kg	270 U
Benzo(a)anthracene	ug/kg	270 U
Benzo(a)pyrene	ug/kg	270 U
Benzo(b)fluoranthene	ug/kg	270 U
Benzo(g,h,i)perylene	ug/kg	270 U
Benzo(k)fluoranthene	ug/kg	270 U
Chrysene	ug/kg	270 U
Dibenz(a,h)anthracene	ug/kg	270 U
Fluoranthene	ug/kg	270 U
Fluorene	ug/kg	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U
Naphthalene	ug/kg	270 U
Phenanthrene	ug/kg	270 U
Pyrene	ug/kg	270 U

Table 3.21.2

Soil Sample Analytical Results - AOI 17.2 – Historical Exterior Die Storage
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB90-11**
Sample Identification		**SO-17360-030311-DR-173**
Sample Date		**3/3/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 17.2**
Metals		
Antimony	ug/kg	160 UJ
Arsenic	ug/kg	1000 J
Barium	ug/kg	8000
Beryllium	ug/kg	160 U
Cadmium	ug/kg	82 U
Chromium	ug/kg	7300
Cobalt	ug/kg	2900
Copper	ug/kg	4800
Lead	ug/kg	1600
Manganese	ug/kg	102000 J
Mercury	ug/kg	41 U
Nickel	ug/kg	6200
Selenium	ug/kg	100 J
Silver	ug/kg	82 U
Thallium	ug/kg	82 U
Vanadium	ug/kg	7100
Zinc	ug/kg	12100
Polychlorinated biphenyl (PCBs)		
Aroclor-1016 (PCB-1016)	ug/kg	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U
Total PCBs	ug/kg	0

Table 3.22

Soil Sample Analytical Results - AOI 18 – Former Coolant Recovery System
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB91-11**	**SB91-11**
Sample Identification		**SO-17360-022111-DR-096**	**SO-17360-022111-DR-097**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 18**	**AOI 18**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	46 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	43 U
1,1,2-Trichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethane	ug/kg	46 U	43 U
1,1-Dichloroethene	ug/kg	46 U	43 U
1,2,4-Trichlorobenzene	ug/kg	230 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	210 U
1,2-Dichlorobenzene	ug/kg	92 U	86 U
1,2-Dichloroethane	ug/kg	46 U	43 U
1,2-Dichloropropane	ug/kg	46 U	43 U
1,3-Dichlorobenzene	ug/kg	92 U	86 U
1,4-Dichlorobenzene	ug/kg	92 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	690 U	640 U
2-Hexanone	ug/kg	2300 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2100 U
Acetone	ug/kg	690 U	640 U
Benzene	ug/kg	46 U	43 U
Bromodichloromethane	ug/kg	92 U	86 U
Bromoform	ug/kg	92 U	86 U
Bromomethane (Methyl bromide)	ug/kg	230 U	210 U
Carbon disulfide	ug/kg	230 U	210 U
Carbon tetrachloride	ug/kg	46 U	43 U
Chlorobenzene	ug/kg	46 U	43 U
Chloroethane	ug/kg	230 U	210 U
Chloroform (Trichloromethane)	ug/kg	46 U	43 U
Chloromethane (Methyl chloride)	ug/kg	230 U	210 U
cis-1,2-Dichloroethene	ug/kg	46 U	43 U
cis-1,3-Dichloropropene	ug/kg	46 U	43 U
Cyclohexane	ug/kg	1100 U	1000 U
Dibromochloromethane	ug/kg	46 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	92 U	86 U
Ethylbenzene	ug/kg	46 U	43 U

Table 3.22

Soil Sample Analytical Results - AOI 18 – Former Coolant Recovery System
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB91-11**	**SB91-11**
Sample Identification		**SO-17360-022111-DR-096**	**SO-17360-022111-DR-097**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 18**	**AOI 18**
Isopropyl benzene	ug/kg	230 U	210 U
Methyl acetate	ug/kg	1100 U	1000 U
Methyl cyclohexane	ug/kg	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	210 U
Methylene chloride	ug/kg	230 U	210 U
Styrene	ug/kg	46 U	43 U
Tetrachloroethene	ug/kg	46 U	43 U
Toluene	ug/kg	92 U	86 U
trans-1,2-Dichloroethene	ug/kg	46 U	43 U
trans-1,3-Dichloropropene	ug/kg	46 U	43 U
Trichloroethene	ug/kg	46 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	92 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	210 U
Vinyl chloride	ug/kg	37 U	34 U
Xylenes (total)	ug/kg	140 U	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	11 J	270 U
Acenaphthene	ug/kg	270 U	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	7.6 J	270 U
Benzo(a)anthracene	ug/kg	25 J	270 U
Benzo(a)pyrene	ug/kg	27 J	270 U
Benzo(b)fluoranthene	ug/kg	45 J	270 U
Benzo(g,h,i)perylene	ug/kg	27 J	270 U
Benzo(k)fluoranthene	ug/kg	22 J	270 U
Chrysene	ug/kg	38 J	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U
Fluoranthene	ug/kg	67 J	270 U
Fluorene	ug/kg	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	20 J	270 U
Naphthalene	ug/kg	7.9 J	270 U
Phenanthrene	ug/kg	50 J	270 U
Pyrene	ug/kg	52 J	270 U

Table 3.22

Soil Sample Analytical Results - AOI 18 – Former Coolant Recovery System
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB91-11**	**SB91-11**
Sample Identification		**SO-17360-022111-DR-096**	**SO-17360-022111-DR-097**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 18**	**AOI 18**
Metals			
Antimony	ug/kg	40 J	37 J
Arsenic	ug/kg	1500	1100
Barium	ug/kg	23000	4900
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	91	45 J
Chromium	ug/kg	5200	4500
Cobalt	ug/kg	1900	1700
Copper	ug/kg	6900	3000
Lead	ug/kg	5500	1400
Manganese	ug/kg	139000	87100
Mercury	ug/kg	41 U	41 U
Nickel	ug/kg	4400	3800
Selenium	ug/kg	240 J	180 J
Silver	ug/kg	83 U	82 U
Thallium	ug/kg	83 U	82 U
Vanadium	ug/kg	6200	4900
Zinc	ug/kg	14700	8000
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U
Total PCBs	ug/kg	0	0

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB92-11	SB92-11	SB93-11	SB93-11	SB94-11
Sample Identification		SO-17360-030111-DR-141	SO-17360-030111-DR-142	SO-17360-030111-DR-143	SO-17360-030111-DR-144	SO-17360-030111-DR-145
Sample Date		3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(17-19) ft BGS	(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,1,2-Trichloroethane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,1-Dichloroethane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,1-Dichloroethene	ug/kg	51 U	42 U	44 U	43 U	47 U
1,2,4-Trichlorobenzene	ug/kg	250 U	210 U	220 U	220 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	250 U	210 U	220 U	220 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	250 U	210 U	220 U	220 U	240 U
1,2-Dichlorobenzene	ug/kg	100 U	84 U	88 U	87 U	95 U
1,2-Dichloroethane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,2-Dichloropropane	ug/kg	51 U	42 U	44 U	43 U	47 U
1,3-Dichlorobenzene	ug/kg	100 U	84 U	88 U	87 U	95 U
1,4-Dichlorobenzene	ug/kg	100 U	84 U	88 U	87 U	95 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	760 U	630 U	660 U	650 U	710 U
2-Hexanone	ug/kg	2500 U	2100 U	2200 U	2200 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2500 U	2100 U	2200 U	2200 U	2400 U
Acetone	ug/kg	760 U	630 U	660 U	650 U	710 U
Benzene	ug/kg	51 U	42 U	44 U	43 U	47 U
Bromodichloromethane	ug/kg	100 U	84 U	88 U	87 U	95 U
Bromoform	ug/kg	100 U	84 U	88 U	87 U	95 U
Bromomethane (Methyl bromide)	ug/kg	250 U	210 U	220 U	220 U	240 U
Carbon disulfide	ug/kg	250 U	210 U	220 U	220 U	240 U
Carbon tetrachloride	ug/kg	51 U	42 U	44 U	43 U	47 U
Chlorobenzene	ug/kg	51 U	42 U	44 U	43 U	47 U
Chloroethane	ug/kg	250 U	210 U	220 U	220 U	240 U
Chloroform (Trichloromethane)	ug/kg	51 U	42 U	44 U	43 U	47 U
Chloromethane (Methyl chloride)	ug/kg	250 U	210 U	220 U	220 U	240 U
cis-1,2-Dichloroethene	ug/kg	51 U	42 U	44 U	43 U	47 U
cis-1,3-Dichloropropene	ug/kg	51 U	42 U	44 U	43 U	47 U
Cyclohexane	ug/kg	1200 U	1000 U	1100 U	1000 U	1100 U
Dibromochloromethane	ug/kg	51 U	42 U	44 U	43 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	100 U	84 U	88 U	87 U	95 U
Ethylbenzene	ug/kg	51 U	42 U	44 U	43 U	47 U

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB92-11**	**SB92-11**	**SB93-11**	**SB93-11**	**SB94-11**
Sample Identification		**SO-17360-030111-DR-141**	**SO-17360-030111-DR-142**	**SO-17360-030111-DR-143**	**SO-17360-030111-DR-144**	**SO-17360-030111-DR-145**
Sample Date		**3/1/2011**	**3/1/2011**	**3/1/2011**	**3/1/2011**	**3/1/2011**
Sample Type						
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**	**(1-3) ft BGS**	**(16-18) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 19**	**AOI 19**	**AOI 19**	**AOI 19**	**AOI 19**
Isopropyl benzene	ug/kg	250 U	210 U	220 U	220 U	240 U
Methyl acetate	ug/kg	130 J	1000 U	1100 U	1000 U	1100 U
Methyl cyclohexane	ug/kg	1200 U	1000 U	1100 U	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	250 U	210 U	220 U	220 U	240 U
Methylene chloride	ug/kg	250 U	210 U	220 U	220 U	240 U
Styrene	ug/kg	51 U	42 U	44 U	43 U	47 U
Tetrachloroethene	ug/kg	51 U	42 U	44 U	43 U	47 U
Toluene	ug/kg	100 U	84 U	88 U	87 U	95 U
trans-1,2-Dichloroethene	ug/kg	51 U	42 U	44 U	43 U	47 U
trans-1,3-Dichloropropene	ug/kg	51 U	42 U	44 U	43 U	47 U
Trichloroethene	ug/kg	51 U	42 U	44 U	43 U	47 U
Trichlorofluoromethane (CFC-11)	ug/kg	100 U	84 U	88 U	87 U	95 U
Trifluorotrichloroethane (Freon 113)	ug/kg	250 U	210 U	220 U	220 U	240 U
Vinyl chloride	ug/kg	40 U	33 U	35 U	35 U	38 U
Xylenes (total)	ug/kg	150 U	130 U	130 U	130 U	140 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	7.3 J	270 U	280 U	270 U	14 J
Acenaphthene	ug/kg	270 U	270 U	280 U	270 U	9.0 J
Acenaphthylene	ug/kg	270 U	270 U	280 U	270 U	48 J
Anthracene	ug/kg	270 U	270 U	280 U	270 U	30 J
Benzo(a)anthracene	ug/kg	10 J	270 U	40 J	270 U	260 J
Benzo(a)pyrene	ug/kg	7.0 J	270 U	41 J	270 U	270
Benzo(b)fluoranthene	ug/kg	13 J	270 U	63 J	270 U	330
Benzo(g,h,i)perylene	ug/kg	6.9 J	270 U	31 J	270 U	160 J
Benzo(k)fluoranthene	ug/kg	270 U	270 U	29 J	270 U	200 J
Chrysene	ug/kg	12 J	270 U	48 J	270 U	240 J
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	7.9 J	270 U	58 J
Fluoranthene	ug/kg	25 J	270 U	87 J	270 U	350
Fluorene	ug/kg	270 U	270 U	280 U	270 U	11 J
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U	26 J	270 U	160 J
Naphthalene	ug/kg	8.5 J	270 U	280 U	270 U	15 J
Phenanthrene	ug/kg	31 J	270 U	43 J	270 U	120 J
Pyrene	ug/kg	19 J	270 U	68 J	270 U	320

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB92-11	SB92-11	SB93-11	SB93-11	SB94-11
Sample Identification		SO-17360-030111-DR-141	SO-17360-030111-DR-142	SO-17360-030111-DR-143	SO-17360-030111-DR-144	SO-17360-030111-DR-145
Sample Date		3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(17-19) ft BGS	(1-3) ft BGS	(16-18) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Metals						
Antimony	ug/kg	160 UJ	160 UJ	170 UJ	160 UJ	170 UJ
Arsenic	ug/kg	1700	1500	1500	1100	1600
Barium	ug/kg	17400	5700	19600	4100	14400
Beryllium	ug/kg	160 U	160 U	170 U	160 U	170 U
Cadmium	ug/kg	82 U	82 U	83 U	82 U	83 U
Chromium	ug/kg	5400	5600	6900	2200	10200
Cobalt	ug/kg	2200	2200	2900	1200	3300
Copper	ug/kg	4700	4600	5000	1800	5800
Lead	ug/kg	5900	1800	5100	1400	4100
Manganese	ug/kg	148000 J	115000 J	163000 J	64800 J	158000 J
Mercury	ug/kg	41 U	41 U	18 J	41 U	42 U
Nickel	ug/kg	4600	5400	6000	2200	7300
Selenium	ug/kg	140 J	110 J	160 J	160 UJ	160 J
Silver	ug/kg	82 U	82 U	83 U	82 U	83 U
Thallium	ug/kg	82 U	82 U	83 U	82 U	83 U
Vanadium	ug/kg	8100	7400	10100	4800	11200
Zinc	ug/kg	15200	11400	27600	7900	16100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	280 U	270 U	270 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB94-11	SB96-11	SB96-11	SB97-11	SB97-11
Sample Identification		SO-17360-030111-DR-146	SO-17360-022311-DR-120	SO-17360-022311-DR-121	SO-17360-022311-DR-122	SO-17360-022311-DR-123
Sample Date		3/1/2011	2/23/2011	2/23/2011	2/23/2011	2/23/2011
Sample Type						
Sample Depth		(16-18) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,1,2-Trichloroethane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,1-Dichloroethane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,1-Dichloroethene	ug/kg	58 U	49 U	46 U	47 U	45 U
1,2,4-Trichlorobenzene	ug/kg	290 U	250 U	230 U	230 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	250 UJ	230 UJ	230 UJ	230 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	250 U	230 U	230 U	230 U
1,2-Dichlorobenzene	ug/kg	120 U	98 U	92 U	93 U	90 U
1,2-Dichloroethane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,2-Dichloropropane	ug/kg	58 U	49 U	46 U	47 U	45 U
1,3-Dichlorobenzene	ug/kg	120 U	98 U	92 U	93 U	90 U
1,4-Dichlorobenzene	ug/kg	120 U	98 U	92 U	93 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	880 U	740 U	690 U	700 U	680 U
2-Hexanone	ug/kg	2900 U	2500 U	2300 U	2300 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	2500 U	2300 U	2300 U	2300 U
Acetone	ug/kg	880 U	740 UJ	690 UJ	700 UJ	680 UJ
Benzene	ug/kg	58 U	49 U	46 U	47 U	45 U
Bromodichloromethane	ug/kg	120 U	98 U	92 U	93 U	90 U
Bromoform	ug/kg	120 U	98 UJ	92 UJ	93 UJ	90 UJ
Bromomethane (Methyl bromide)	ug/kg	290 U	250 U	230 U	230 U	230 U
Carbon disulfide	ug/kg	290 U	250 U	230 U	230 U	230 U
Carbon tetrachloride	ug/kg	58 U	49 U	46 U	47 U	45 U
Chlorobenzene	ug/kg	58 U	49 U	46 U	47 U	45 U
Chloroethane	ug/kg	290 U	250 U	230 U	230 U	230 U
Chloroform (Trichloromethane)	ug/kg	58 U	49 U	46 U	47 U	45 U
Chloromethane (Methyl chloride)	ug/kg	290 U	250 U	230 U	230 U	230 U
cis-1,2-Dichloroethene	ug/kg	58 U	49 U	46 U	47 U	45 U
cis-1,3-Dichloropropene	ug/kg	58 U	49 U	46 U	47 U	45 U
Cyclohexane	ug/kg	1400 U	1200 U	1100 U	1100 U	1100 U
Dibromochloromethane	ug/kg	58 U	49 U	46 U	47 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	98 U	92 U	93 U	90 U
Ethylbenzene	ug/kg	58 U	49 U	46 U	47 U	45 U

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB94-11**	**SB96-11**	**SB96-11**	**SB97-11**	**SB97-11**
Sample Identification		**SO-17360-030111-DR-146**	**SO-17360-022311-DR-120**	**SO-17360-022311-DR-121**	**SO-17360-022311-DR-122**	**SO-17360-022311-DR-123**
Sample Date		**3/1/2011**	**2/23/2011**	**2/23/2011**	**2/23/2011**	**2/23/2011**
Sample Type						
Sample Depth		**(16-18) ft BGS**	**(1-3) ft BGS**	**(20-22) ft BGS**	**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 19**	**AOI 19**	**AOI 19**	**AOI 19**	**AOI 19**
Isopropyl benzene	ug/kg	290 U	250 U	230 U	230 U	230 U
Methyl acetate	ug/kg	1400 U	1200 U	1100 U	34 J	1100 U
Methyl cyclohexane	ug/kg	1400 U	1200 U	1100 U	18 J	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	250 U	230 U	230 U	230 U
Methylene chloride	ug/kg	290 U	250 U	230 U	230 U	230 U
Styrene	ug/kg	58 U	49 U	46 U	47 U	45 U
Tetrachloroethene	ug/kg	58 U	49 U	46 U	47 U	45 U
Toluene	ug/kg	120 U	98 U	92 U	93 U	90 U
trans-1,2-Dichloroethene	ug/kg	58 U	49 U	46 U	47 U	45 U
trans-1,3-Dichloropropene	ug/kg	58 U	49 U	46 U	47 U	45 U
Trichloroethene	ug/kg	58 U	49 U	46 U	47 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	98 U	92 U	93 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	250 U	230 U	230 U	230 U
Vinyl chloride	ug/kg	47 U	39 U	37 U	37 U	36 U
Xylenes (total)	ug/kg	180 U	150 U	140 U	140 U	140 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	300 U	300 U	310 U	300 U
Acenaphthene	ug/kg	270 U	300 U	300 U	310 U	300 U
Acenaphthylene	ug/kg	270 U	300 U	300 U	310 U	300 U
Anthracene	ug/kg	270 U	300 U	300 U	310 U	300 U
Benzo(a)anthracene	ug/kg	270 U	8.0 J	300 U	24 J	300 U
Benzo(a)pyrene	ug/kg	270 U	8.6 J	300 U	27 J	300 U
Benzo(b)fluoranthene	ug/kg	270 U	15 J	300 U	43 J	300 U
Benzo(g,h,i)perylene	ug/kg	270 U	7.8 J	300 U	23 J	300 U
Benzo(k)fluoranthene	ug/kg	270 U	300 U	300 U	13 J	300 U
Chrysene	ug/kg	270 U	7.8 J	300 U	31 J	300 U
Dibenz(a,h)anthracene	ug/kg	270 U	300 U	300 U	310 U	300 U
Fluoranthene	ug/kg	270 U	13 J	300 U	54 J	300 U
Fluorene	ug/kg	270 U	300 U	300 U	310 U	300 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	300 U	300 U	19 J	300 U
Naphthalene	ug/kg	270 U	300 U	300 U	310 U	300 U
Phenanthrene	ug/kg	270 U	300 U	300 U	27 J	300 U
Pyrene	ug/kg	270 U	11 J	300 U	44 J	300 U

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB94-11	SB96-11	SB96-11	SB97-11	SB97-11
Sample Identification		SO-17360-030111-DR-146	SO-17360-022311-DR-120	SO-17360-022311-DR-121	SO-17360-022311-DR-122	SO-17360-022311-DR-123
Sample Date		3/1/2011	2/23/2011	2/23/2011	2/23/2011	2/23/2011
Sample Type						
Sample Depth		(16-18) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Metals						
Antimony	ug/kg	160 UJ	180 UJ	180 UJ	190 UJ	180 UJ
Arsenic	ug/kg	960	1300 J	850 J	1300 J	630 J
Barium	ug/kg	3400	8700	6400	8800	4700
Beryllium	ug/kg	160 U	180 U	180 U	190 U	180 U
Cadmium	ug/kg	82 U	91 U	92 U	94 U	92 U
Chromium	ug/kg	2000	4200	5000	4900	2500
Cobalt	ug/kg	1100	1800	2500	2000	740
Copper	ug/kg	2300	4300	2300	5000	1400
Lead	ug/kg	1100	2800	1000	5200	1100
Manganese	ug/kg	55900 J	118000 J	83700	129000	56700
Mercury	ug/kg	41 U	46 U	46 U	47 U	46 U
Nickel	ug/kg	2300	3900	4800	4600	1700
Selenium	ug/kg	96 J	160 J	110 J	120 J	180 UJ
Silver	ug/kg	82 U	91 U	92 U	94 U	92 U
Thallium	ug/kg	82 U	91 U	92 U	94 U	92 U
Vanadium	ug/kg	3800	5900	5800	6200	2600
Zinc	ug/kg	6100	9200	12400	12800	5200
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	300 U	300 U	310 U	300 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	300 U	300 U	310 U	300 U
Total PCBs	ug/kg	0	0	0	0	0

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB98-11	SB98-11	SB98-11	SB99-11	SB99-11
Sample Identification		SO-17360-021711-DR-071	SO-17360-021711-DR-072	SO-17360-021711-DR-073	SO-17360-022511-DR-126	SO-17360-022511-DR-127
Sample Date		2/17/2011	2/17/2011	2/17/2011	2/25/2011	2/25/2011
Sample Type			Duplicate			
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,1,2-Trichloroethane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,1-Dichloroethane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,1-Dichloroethene	ug/kg	43 U	48 U	44 U	47 U	38 U
1,2,4-Trichlorobenzene	ug/kg	210 U	240 U	220 U	240 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	240 U	220 U	240 UJ	190 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	240 U	220 U	240 U	190 U
1,2-Dichlorobenzene	ug/kg	85 U	96 U	88 U	95 U	76 U
1,2-Dichloroethane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,2-Dichloropropane	ug/kg	43 U	48 U	44 U	47 U	38 U
1,3-Dichlorobenzene	ug/kg	85 U	96 U	88 U	95 U	76 U
1,4-Dichlorobenzene	ug/kg	85 U	96 U	88 U	95 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	640 U	720 U	660 U	710 U	570 U
2-Hexanone	ug/kg	2100 U	2400 U	2200 U	2400 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2400 U	2200 U	2400 U	1900 U
Acetone	ug/kg	640 U	720 U	660 U	710 UJ	570 UJ
Benzene	ug/kg	43 U	48 U	44 U	47 U	38 U
Bromodichloromethane	ug/kg	85 U	96 U	88 U	95 U	76 U
Bromoform	ug/kg	85 U	96 U	88 U	95 UJ	76 UJ
Bromomethane (Methyl bromide)	ug/kg	210 U	240 U	220 U	240 U	190 U
Carbon disulfide	ug/kg	210 U	240 U	220 U	240 U	190 U
Carbon tetrachloride	ug/kg	43 U	48 U	44 U	47 U	38 U
Chlorobenzene	ug/kg	43 U	48 U	44 U	47 U	38 U
Chloroethane	ug/kg	210 U	240 U	220 U	240 U	190 U
Chloroform (Trichloromethane)	ug/kg	43 U	48 U	44 U	47 U	38 U
Chloromethane (Methyl chloride)	ug/kg	210 U	240 U	220 U	240 U	190 U
cis-1,2-Dichloroethene	ug/kg	43 U	48 U	44 U	47 U	38 U
cis-1,3-Dichloropropene	ug/kg	43 U	48 U	44 U	47 U	38 U
Cyclohexane	ug/kg	1000 U	1100 U	1100 U	1100 U	920 U
Dibromochloromethane	ug/kg	43 U	48 U	44 U	47 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	85 U	96 U	88 U	95 U	76 U
Ethylbenzene	ug/kg	43 U	48 U	44 U	47 U	38 U

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB98-11	SB98-11	SB98-11	SB99-11	SB99-11
Sample Identification		SO-17360-021711-DR-071	SO-17360-021711-DR-072	SO-17360-021711-DR-073	SO-17360-022511-DR-126	SO-17360-022511-DR-127
Sample Date		2/17/2011	2/17/2011	2/17/2011	2/25/2011	2/25/2011
Sample Type			Duplicate			
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Isopropyl benzene	ug/kg	210 U	240 U	220 U	240 U	190 U
Methyl acetate	ug/kg	1000 U	62 J	1100 U	1100 U	920 U
Methyl cyclohexane	ug/kg	1000 U	1100 U	1100 U	1100 U	920 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	240 U	220 U	240 U	190 U
Methylene chloride	ug/kg	210 U	240 U	220 U	240 U	190 U
Styrene	ug/kg	43 U	48 U	44 U	47 U	38 U
Tetrachloroethene	ug/kg	43 U	48 U	44 U	47 U	38 U
Toluene	ug/kg	85 U	96 U	88 U	95 U	76 U
trans-1,2-Dichloroethene	ug/kg	43 U	48 U	44 U	47 U	38 U
trans-1,3-Dichloropropene	ug/kg	43 U	48 U	44 U	47 U	38 U
Trichloroethene	ug/kg	43 U	48 U	44 U	47 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	85 U	96 U	88 U	95 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	240 U	220 U	240 U	190 U
Vinyl chloride	ug/kg	34 U	38 U	35 U	38 U	31 U
Xylenes (total)	ug/kg	130 U	140 U	130 U	140 U	110 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	270 U	280 U	270 U	270 U
Acenaphthene	ug/kg	270 U	270 U	280 U	13 J	270 U
Acenaphthylene	ug/kg	270 U	270 U	280 U	270 U	270 U
Anthracene	ug/kg	9.4 J	270 U	280 U	44 J	270 U
Benzo(a)anthracene	ug/kg	39 J	38 J	280 U	150 J	270 U
Benzo(a)pyrene	ug/kg	45 J	39 J	280 U	190 J	270 U
Benzo(b)fluoranthene	ug/kg	57 J	51 J	280 U	290	270 U
Benzo(g,h,i)perylene	ug/kg	61 J	62 J	280 U	150 J	270 U
Benzo(k)fluoranthene	ug/kg	30 J	26 J	280 U	85 J	270 U
Chrysene	ug/kg	45 J	52 J	280 U	150 J	270 U
Dibenz(a,h)anthracene	ug/kg	9.1 J	270 U	280 U	52 J	270 U
Fluoranthene	ug/kg	91 J	76 J	8.4 J	240 J	270 U
Fluorene	ug/kg	270 U	270 U	280 U	13 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	33 J	30 J	280 U	130 J	270 U
Naphthalene	ug/kg	270 U	270 U	280 U	270 U	270 U
Phenanthrene	ug/kg	46 J	32 J	280 U	150 J	270 U
Pyrene	ug/kg	70 J	60 J	7.9 J	180 J	270 U

Table 3.23

Soil Sample Analytical Results - AOI 19 – Former Stamping Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB98-11	SB98-11	SB98-11	SB99-11	SB99-11
Sample Identification		SO-17360-021711-DR-071	SO-17360-021711-DR-072	SO-17360-021711-DR-073	SO-17360-022511-DR-126	SO-17360-022511-DR-127
Sample Date		2/17/2011	2/17/2011	2/17/2011	2/25/2011	2/25/2011
Sample Type			Duplicate			
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(20-22) ft BGS	(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 19	AOI 19	AOI 19	AOI 19	AOI 19
Metals						
Antimony	ug/kg	34 J	28 J	170 UJ	170 UJ	160 UJ
Arsenic	ug/kg	1100	1100	2300	1200 J	1600 J
Barium	ug/kg	22900	24200	12600	18500	9200
Beryllium	ug/kg	170 U	170 U	170 U	170 U	160 U
Cadmium	ug/kg	83 U	83 U	42 J	83 U	82 U
Chromium	ug/kg	4800	5000	5300	4200	6100
Cobalt	ug/kg	2100	2100	2900	1700	2400
Copper	ug/kg	3400 J	3300 J	7600 J	2700	6100
Lead	ug/kg	3500	4300	2300	3500	2000
Manganese	ug/kg	161000 J	155000 J	393000 J	110000	221000
Mercury	ug/kg	41 U	42 U	43 U	42 U	41 U
Nickel	ug/kg	4000	4100	5200	3700	5000
Selenium	ug/kg	140 J	160 J	98 J	160 J	96 J
Silver	ug/kg	83 U	83 U	86 U	83 U	82 U
Thallium	ug/kg	83 U	83 U	86 U	83 U	82 U
Vanadium	ug/kg	7400	7900	7100	7100	7600
Zinc	ug/kg	11700	12300	8600	10700	9600
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	280 U	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	280 U	270 U	270 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.25

Soil Sample Analytical Results - AOI 21.9 - Substation K
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Substation K-1	Substation K-2
Sample Identification		SO-17360-050412-EB-001	SO-17360-050412-EB-002
Sample Date		5/4/2012	5/4/2012
Sample Type			
Sample Depth		-	-
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 21.9	AOI 21.9
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	390 U	390 U
Aroclor-1221 (PCB-1221)	ug/kg	390 U	390 U
Aroclor-1232 (PCB-1232)	ug/kg	390 U	390 U
Aroclor-1242 (PCB-1242)	ug/kg	390 U	390 U
Aroclor-1248 (PCB-1248)	ug/kg	390 U	390 U
Aroclor-1254 (PCB-1254)	ug/kg	390 U	390 U
Aroclor-1260 (PCB-1260)	ug/kg	7.5 J	110 J
Total PCBs	ug/kg	7.5 J	110 J

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB100-11	SB100-11	SB157-11	SB158-11	SB159-11
Sample Identification		SO-17360-031511-DR-243	SO-17360-031511-DR-244	S-17360-092711-EM-029	S-17360-092711-EM-014	S-17360-092711-EM-009
Sample Date		3/15/2011	3/15/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(8-10) ft BGS	(0.7-2.7) ft BGS	(0.5-2.5) ft BGS	(0.6-2.6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	44 U	42 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	44 U	42 U	--	--	--
1,1,2-Trichloroethane	ug/kg	44 U	42 U	--	--	--
1,1-Dichloroethane	ug/kg	44 U	42 U	--	--	--
1,1-Dichloroethene	ug/kg	44 U	42 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	220 U	210 U	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	210 U	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	210 U	--	--	--
1,2-Dichlorobenzene	ug/kg	88 U	84 U	--	--	--
1,2-Dichloroethane	ug/kg	44 U	42 U	--	--	--
1,2-Dichloropropane	ug/kg	44 U	42 U	--	--	--
1,3-Dichlorobenzene	ug/kg	88 U	84 U	--	--	--
1,4-Dichlorobenzene	ug/kg	88 U	84 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	630 U	--	--	--
2-Hexanone	ug/kg	2200 U	2100 U	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2100 U	--	--	--
Acetone	ug/kg	660 U	630 U	--	--	--
Benzene	ug/kg	44 U	42 U	--	--	--
Bromodichloromethane	ug/kg	88 U	84 U	--	--	--
Bromoform	ug/kg	88 U	84 U	--	--	--
Bromomethane (Methyl bromide)	ug/kg	220 U	210 U	--	--	--
Carbon disulfide	ug/kg	220 U	210 U	--	--	--
Carbon tetrachloride	ug/kg	44 U	42 U	--	--	--
Chlorobenzene	ug/kg	44 U	42 U	--	--	--
Chloroethane	ug/kg	220 U	210 U	--	--	--
Chloroform (Trichloromethane)	ug/kg	44 U	42 U	--	--	--
Chloromethane (Methyl chloride)	ug/kg	220 U	210 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	44 U	42 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	44 U	42 U	--	--	--
Cyclohexane	ug/kg	1100 U	1000 U	--	--	--
Dibromochloromethane	ug/kg	44 U	42 U	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	84 U	--	--	--
Ethylbenzene	ug/kg	44 U	42 U	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB100-11	SB100-11	SB157-11	SB158-11	SB159-11
Sample Identification		SO-17360-031511-DR-243	SO-17360-031511-DR-244	S-17360-092711-EM-029	S-17360-092711-EM-014	S-17360-092711-EM-009
Sample Date		3/15/2011	3/15/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(8-10) ft BGS	(0.7-2.7) ft BGS	(0.5-2.5) ft BGS	(0.6-2.6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	220 U	210 U	--	--	--
Methyl acetate	ug/kg	41 J	1000 U	--	--	--
Methyl cyclohexane	ug/kg	21 J	1000 U	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	220 U	210 U	--	--	--
Methylene chloride	ug/kg	220 U	210 U	--	--	--
Styrene	ug/kg	44 U	42 U	--	--	--
Tetrachloroethene	ug/kg	44 U	42 U	--	--	--
Toluene	ug/kg	88 U	84 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	44 U	42 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	44 U	42 U	--	--	--
Trichloroethene	ug/kg	44 U	42 U	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	84 U	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	210 U	--	--	--
Vinyl chloride	ug/kg	35 U	33 U	--	--	--
Xylenes (total)	ug/kg	130 U	130 U	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	2700 U	13 J	--	--	--
Acenaphthene	ug/kg	540 J	280 U	--	--	--
Acenaphthylene	ug/kg	2700 U	280 U	--	--	--
Anthracene	ug/kg	1600 J	280 U	--	--	--
Benzo(a)anthracene	ug/kg	4400	13 J	--	--	--
Benzo(a)pyrene	ug/kg	**3900[o]**	12 J	--	--	--
Benzo(b)fluoranthene	ug/kg	4900	22 J	--	--	--
Benzo(g,h,i)perylene	ug/kg	2600 J	19 J	--	--	--
Benzo(k)fluoranthene	ug/kg	2000 J	15 J	--	--	--
Chrysene	ug/kg	4100	21 J	--	--	--
Dibenz(a,h)anthracene	ug/kg	520 J	280 U	--	--	--
Fluoranthene	ug/kg	**10000[d]**	27 J	--	--	--
Fluorene	ug/kg	480 J	280 U	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	2200 J	13 J	--	--	--
Naphthalene	ug/kg	2700 U	8.4 J	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB100-11	SB100-11	SB157-11	SB158-11	SB159-11
Sample Identification		SO-17360-031511-DR-243	SO-17360-031511-DR-244	S-17360-092711-EM-029	S-17360-092711-EM-014	S-17360-092711-EM-009
Sample Date		3/15/2011	3/15/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(8-10) ft BGS	(0.7-2.7) ft BGS	(0.5-2.5) ft BGS	(0.6-2.6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	**5900[d]**	13 J	--	--	--
Pyrene	ug/kg	8200	22 J	--	--	--
Metals						
Antimony	ug/kg	16400 UJ	30 J	--	--	--
Arsenic	ug/kg	2000 J	1500 J	--	--	--
Barium	ug/kg	15000	10800	--	--	--
Beryllium	ug/kg	230 U	210 U	--	--	--
Cadmium	ug/kg	130	80 U	--	--	--
Chromium	ug/kg	6800	4600	--	--	--
Cobalt	ug/kg	2200	1900	--	--	--
Copper	ug/kg	7700	4900	--	--	--
Lead	ug/kg	27900	5600	--	--	--
Manganese	ug/kg	99000	124000	--	--	--
Mercury	ug/kg	41 U	39 U	--	--	--
Nickel	ug/kg	4700	5100	--	--	--
Selenium	ug/kg	120 J	96 J	--	--	--
Silver	ug/kg	82 U	80 U	--	--	--
Thallium	ug/kg	8200 U	80 U	--	--	--
Vanadium	ug/kg	7300	6400	--	--	--
Zinc	ug/kg	22000	10700	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	680 U	280 U	34 U	33 U	170 U
Aroclor-1221 (PCB-1221)	ug/kg	680 U	280 U	34 U	33 U	170 U
Aroclor-1232 (PCB-1232)	ug/kg	680 U	280 U	34 U	33 U	170 U
Aroclor-1242 (PCB-1242)	ug/kg	680 U	280 U	34 U	33 U	170 U
Aroclor-1248 (PCB-1248)	ug/kg	680 U	280 U	34 U	33 U	170 U
Aroclor-1254 (PCB-1254)	ug/kg	680 U	280 U	34 U	33 U	1100
Aroclor-1260 (PCB-1260)	ug/kg	3300	280 U	34 U	33 U	170 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB100-11	SB100-11	SB157-11	SB158-11	SB159-11
Sample Identification		SO-17360-031511-DR-243	SO-17360-031511-DR-244	S-17360-092711-EM-029	S-17360-092711-EM-014	S-17360-092711-EM-009
Sample Date		3/15/2011	3/15/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(0.5-2.5) ft BGS	(8-10) ft BGS	(0.7-2.7) ft BGS	(0.5-2.5) ft BGS	(0.6-2.6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	3300	0	0	0	1100

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB159-11	SB159-11	SB160-11	SB160-11	SB161-11
Sample Identification		S-17360-092711-EM-010	S-17360-092711-EM-011	S-17360-092711-EM-024	S-17360-092711-EM-025	S-17360-092711-EM-019
Sample Date		9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(2.6-4) ft BGS	(4-6) ft BGS	(0.5-2.5) ft BGS	(2.5-4) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB159-11	SB159-11	SB160-11	SB160-11	SB161-11
Sample Identification		S-17360-092711-EM-010	S-17360-092711-EM-011	S-17360-092711-EM-024	S-17360-092711-EM-025	S-17360-092711-EM-019
Sample Date		9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(2.6-4) ft BGS	(4-6) ft BGS	(0.5-2.5) ft BGS	(2.5-4) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB159-11	SB159-11	SB160-11	SB160-11	SB161-11
Sample Identification		S-17360-092711-EM-010	S-17360-092711-EM-011	S-17360-092711-EM-024	S-17360-092711-EM-025	S-17360-092711-EM-019
Sample Date		9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(2.6-4) ft BGS	(4-6) ft BGS	(0.5-2.5) ft BGS	(2.5-4) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1221 (PCB-1221)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1232 (PCB-1232)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1242 (PCB-1242)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1248 (PCB-1248)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1254 (PCB-1254)	ug/kg	34 U	34 U	34 U	34 U	34 U
Aroclor-1260 (PCB-1260)	ug/kg	34 U	34 U	34 U	34 U	34 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB159-11	SB159-11	SB160-11	SB160-11	SB161-11
Sample Identification		S-17360-092711-EM-010	S-17360-092711-EM-011	S-17360-092711-EM-024	S-17360-092711-EM-025	S-17360-092711-EM-019
Sample Date		9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011
Sample Type						
Sample Depth		(2.6-4) ft BGS	(4-6) ft BGS	(0.5-2.5) ft BGS	(2.5-4) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	excavated	Unexcavated	excavated	excavated	excavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB162-11	SB163-11	SB164-11	SB164-11	SB165-11
Sample Identification		S-17360-092911-EM-082	S-17360-092911-EM-071	S-17360-092911-EM-076	S-17360-092911-EM-077	S-17360-092911-EM-092
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB162-11	SB163-11	SB164-11	SB164-11	SB165-11
Sample Identification		S-17360-092911-EM-082	S-17360-092911-EM-071	S-17360-092911-EM-076	S-17360-092911-EM-077	S-17360-092911-EM-092
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB162-11	SB163-11	SB164-11	SB164-11	SB165-11
Sample Identification		S-17360-092911-EM-082	S-17360-092911-EM-071	S-17360-092911-EM-076	S-17360-092911-EM-077	S-17360-092911-EM-092
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	170 U	34 U	35 U	35 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	560	34 U	140	78	3000

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB162-11	SB163-11	SB164-11	SB164-11	SB165-11
Sample Identification		S-17360-092911-EM-082	S-17360-092911-EM-071	S-17360-092911-EM-076	S-17360-092911-EM-077	S-17360-092911-EM-092
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
Total PCBs	ug/kg	560	0	140	78	3000

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB165-11	SB165-11	SB166-11	SB166-11	SB166-11
Sample Identification		S-17360-092911-EM-093	S-17360-092911-EM-094	S-17360-092911-EM-087	S-17360-092911-EM-088	S-17360-092911-EM-089
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB165-11	SB165-11	SB166-11	SB166-11	SB166-11
Sample Identification		S-17360-092911-EM-093	S-17360-092911-EM-094	S-17360-092911-EM-087	S-17360-092911-EM-088	S-17360-092911-EM-089
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB165-11**	**SB165-11**	**SB166-11**	**SB166-11**	**SB166-11**
Sample Identification		**S-17360-092911-EM-093**	**S-17360-092911-EM-094**	**S-17360-092911-EM-087**	**S-17360-092911-EM-088**	**S-17360-092911-EM-089**
Sample Date		**9/29/2011**	**9/29/2011**	**9/29/2011**	**9/29/2011**	**9/29/2011**
Sample Type						
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 39.3**	**AOI 39.3**	**AOI 39.3**	**AOI 39.3**	**AOI 39.3**
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1221 (PCB-1221)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1232 (PCB-1232)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1242 (PCB-1242)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1248 (PCB-1248)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1254 (PCB-1254)	ug/kg	1700 U	680 U	1700 U	1700 U	35 U
Aroclor-1260 (PCB-1260)	ug/kg	**13000[o]**	3800	**12000[o]**	**6400[o]**	35 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB165-11	SB165-11	SB166-11	SB166-11	SB166-11
Sample Identification		S-17360-092911-EM-093	S-17360-092911-EM-094	S-17360-092911-EM-087	S-17360-092911-EM-088	S-17360-092911-EM-089
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3	AOI 39.3
Total PCBs	ug/kg	**13000°**	3800	**12000°**	**6400°**	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB200-12	SB200-12	SB200-12	SB200-12	SB201-12
Sample Identification		SO-17360-103112-EB-158	SO-17360-103112-EB-159	SO-17360-103112-EB-160	SO-17360-103112-EB-161	SO-17360-103112-EB-164
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB200-12	SB200-12	SB200-12	SB200-12	SB201-12
Sample Identification		SO-17360-103112-EB-158	SO-17360-103112-EB-159	SO-17360-103112-EB-160	SO-17360-103112-EB-161	SO-17360-103112-EB-164
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB200-12	SB200-12	SB200-12	SB200-12	SB201-12
Sample Identification		SO-17360-103112-EB-158	SO-17360-103112-EB-159	SO-17360-103112-EB-160	SO-17360-103112-EB-161	SO-17360-103112-EB-164
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	19 J	340 U	340 U	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	21 J	4.5 J	4 J	340 U	49 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB200-12	SB200-12	SB200-12	SB200-12	SB201-12
Sample Identification		SO-17360-103112-EB-158	SO-17360-103112-EB-159	SO-17360-103112-EB-160	SO-17360-103112-EB-161	SO-17360-103112-EB-164
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type				Duplicate		
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	40 J	4.5 J	4 J	0	49 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB201-12	SB201-12	SB202-12	SB202-12	SB202-12
Sample Identification		SO-17360-103112-EB-165	SO-17360-103112-EB-166	SO-17360-103112-EB-150	SO-17360-103112-EB-151	SO-17360-103112-EB-152
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB201-12	SB201-12	SB202-12	SB202-12	SB202-12
Sample Identification		SO-17360-103112-EB-165	SO-17360-103112-EB-166	SO-17360-103112-EB-150	SO-17360-103112-EB-151	SO-17360-103112-EB-152
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB201-12	SB201-12	SB202-12	SB202-12	SB202-12
Sample Identification		SO-17360-103112-EB-165	SO-17360-103112-EB-166	SO-17360-103112-EB-150	SO-17360-103112-EB-151	SO-17360-103112-EB-152
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	350 U	340 U	340 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	38 J	46 J	71 J	660	62 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB201-12	SB201-12	SB202-12	SB202-12	SB202-12
Sample Identification		SO-17360-103112-EB-165	SO-17360-103112-EB-166	SO-17360-103112-EB-150	SO-17360-103112-EB-151	SO-17360-103112-EB-152
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	38 J	46 J	71 J	660	62 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB203-12	SB203-12	SB203-12	SB203-12	SB203-12
Sample Identification		SO-17360-103112-EB-144	SO-17360-103112-EB-145	SO-17360-103112-EB-146	SO-17360-103112-EB-147	SO-17360-103112-EB-149
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB203-12	SB203-12	SB203-12	SB203-12	SB203-12
Sample Identification		SO-17360-103112-EB-144	SO-17360-103112-EB-145	SO-17360-103112-EB-146	SO-17360-103112-EB-147	SO-17360-103112-EB-149
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB203-12	SB203-12	SB203-12	SB203-12	SB203-12
Sample Identification		SO-17360-103112-EB-144	SO-17360-103112-EB-145	SO-17360-103112-EB-146	SO-17360-103112-EB-147	SO-17360-103112-EB-149
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	340 U	340 U	340 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	250 J	240 J	380	190 J	1300

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB203-12	SB203-12	SB203-12	SB203-12	SB203-12
Sample Identification		SO-17360-103112-EB-144	SO-17360-103112-EB-145	SO-17360-103112-EB-146	SO-17360-103112-EB-147	SO-17360-103112-EB-149
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	250 J	240 J	380	190 J	1300

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB204-12	SB204-12	SB204-12	SB205-12	SB205-12
Sample Identification		SO-17360-103112-EB-139	SO-17360-103112-EB-140	SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB204-12	SB204-12	SB204-12	SB205-12	SB205-12
Sample Identification		SO-17360-103112-EB-139	SO-17360-103112-EB-140	SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB204-12	SB204-12	SB204-12	SB205-12	SB205-12
Sample Identification		SO-17360-103112-EB-139	SO-17360-103112-EB-140	SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	340 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	340 U	340 U	34 J	21 J
Aroclor-1260 (PCB-1260)	ug/kg	680	880	150 J	42 J	42 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB204-12	SB204-12	SB204-12	SB205-12	SB205-12
Sample Identification		SO-17360-103112-EB-139	SO-17360-103112-EB-140	SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	680	880	150 J	76 J	63 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB205-12	SB206-12	SB206-12	SB206-12	SB215-12
Sample Identification		SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	SO-17360-103112-EB-156
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB205-12	SB206-12	SB206-12	SB206-12	SB215-12
Sample Identification		SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	SO-17360-103112-EB-156
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB205-12	SB206-12	SB206-12	SB206-12	SB215-12
Sample Identification		SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	SO-17360-103112-EB-156
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	370 U	350 U	360 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	60 J	33 J	28 J	38 J	5.9 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB205-12	SB206-12	SB206-12	SB206-12	SB215-12
Sample Identification		SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	SO-17360-103112-EB-156
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Type						
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	60 J	33 J	28 J	38 J	5.9 J

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB215-12	SB223-13	SB223-13	SB223-13	SB224-13
Sample Identification		SO-17360-103112-EB-157	SO-17360-042313-DR-003	SO-17360-042313-DR-004	SO-17360-042313-DR-005	SO-17360-042313-DR-006
Sample Date		10/31/2012	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB215-12	SB223-13	SB223-13	SB223-13	SB224-13
Sample Identification		SO-17360-103112-EB-157	SO-17360-042313-DR-003	SO-17360-042313-DR-004	SO-17360-042313-DR-005	SO-17360-042313-DR-006
Sample Date		10/31/2012	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB215-12	SB223-13	SB223-13	SB223-13	SB224-13
Sample Identification		SO-17360-103112-EB-157	SO-17360-042313-DR-003	SO-17360-042313-DR-004	SO-17360-042313-DR-005	SO-17360-042313-DR-006
Sample Date		10/31/2012	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	350 U	330 U	350 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	6.8 J	77 J	1200	**8200[o]**	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB215-12	SB223-13	SB223-13	SB223-13	SB224-13
Sample Identification		SO-17360-103112-EB-157	SO-17360-042313-DR-003	SO-17360-042313-DR-004	SO-17360-042313-DR-005	SO-17360-042313-DR-006
Sample Date		10/31/2012	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	6.8 J	77 J	1200	**8200[o]**	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB224-13	SB224-13	SB224-13	SB224-13	SB224-13
Sample Identification		SO-17360-042313-DR-007	SO-17360-042313-DR-008	SO-17360-042313-DR-009	SO-17360-042313-DR-010	SO-17360-042313-DR-011
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB224-13**	**SB224-13**	**SB224-13**	**SB224-13**	**SB224-13**
Sample Identification		**SO-17360-042313-DR-007**	**SO-17360-042313-DR-008**	**SO-17360-042313-DR-009**	**SO-17360-042313-DR-010**	**SO-17360-042313-DR-011**
Sample Date		**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**
Sample Type						
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB224-13	SB224-13	SB224-13	SB224-13	SB224-13
Sample Identification		SO-17360-042313-DR-007	SO-17360-042313-DR-008	SO-17360-042313-DR-009	SO-17360-042313-DR-010	SO-17360-042313-DR-011
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	330 U	330 U	340 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	330 U	330 U	370	1100

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB224-13	SB224-13	SB224-13	SB224-13	SB224-13
Sample Identification		SO-17360-042313-DR-007	SO-17360-042313-DR-008	SO-17360-042313-DR-009	SO-17360-042313-DR-010	SO-17360-042313-DR-011
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	370	1100

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB225-13	SB225-13	SB225-13
Sample Identification		SO-17360-042313-DR-012	SO-17360-042313-DR-013	SO-17360-042313-DR-014	SO-17360-042313-DR-015	SO-17360-042313-DR-016
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB225-13	SB225-13	SB225-13
Sample Identification		SO-17360-042313-DR-012	SO-17360-042313-DR-013	SO-17360-042313-DR-014	SO-17360-042313-DR-015	SO-17360-042313-DR-016
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB225-13	SB225-13	SB225-13
Sample Identification		SO-17360-042313-DR-012	SO-17360-042313-DR-013	SO-17360-042313-DR-014	SO-17360-042313-DR-015	SO-17360-042313-DR-016
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	330 U	160 J	390	440

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB225-13	SB225-13	SB225-13
Sample Identification		SO-17360-042313-DR-012	SO-17360-042313-DR-013	SO-17360-042313-DR-014	SO-17360-042313-DR-015	SO-17360-042313-DR-016
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	160 J	390	440

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB226-13	SB226-13	SB226-13
Sample Identification		SO-17360-042313-DR-017	SO-17360-042313-DR-018	SO-17360-042313-DR-019	SO-17360-042313-DR-020	SO-17360-042313-DR-021
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB226-13	SB226-13	SB226-13
Sample Identification		SO-17360-042313-DR-017	SO-17360-042313-DR-018	SO-17360-042313-DR-019	SO-17360-042313-DR-020	SO-17360-042313-DR-021
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB226-13	SB226-13	SB226-13
Sample Identification		SO-17360-042313-DR-017	SO-17360-042313-DR-018	SO-17360-042313-DR-019	SO-17360-042313-DR-020	SO-17360-042313-DR-021
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	330 U	340 U	320 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	410	1700	75 J	140 J	390

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB225-13	SB225-13	SB226-13	SB226-13	SB226-13
Sample Identification		SO-17360-042313-DR-017	SO-17360-042313-DR-018	SO-17360-042313-DR-019	SO-17360-042313-DR-020	SO-17360-042313-DR-021
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	410	1700	75 J	140 J	390

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB226-13	SB226-13	SB226-13	SB227-13	SB227-13
Sample Identification		SO-17360-042313-DR-022	SO-17360-042313-DR-023	SO-17360-042313-DR-024	SO-17360-042313-DR-025	SO-17360-042313-DR-026
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB226-13	SB226-13	SB226-13	SB227-13	SB227-13
Sample Identification		SO-17360-042313-DR-022	SO-17360-042313-DR-023	SO-17360-042313-DR-024	SO-17360-042313-DR-025	SO-17360-042313-DR-026
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB226-13	SB226-13	SB226-13	SB227-13	SB227-13
Sample Identification		SO-17360-042313-DR-022	SO-17360-042313-DR-023	SO-17360-042313-DR-024	SO-17360-042313-DR-025	SO-17360-042313-DR-026
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	320 U	320 U	340 U	320 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	1100	320 U	340 U	420	600

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB226-13	SB226-13	SB226-13	SB227-13	SB227-13
Sample Identification		SO-17360-042313-DR-022	SO-17360-042313-DR-023	SO-17360-042313-DR-024	SO-17360-042313-DR-025	SO-17360-042313-DR-026
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	1100	0	0	420	600

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB227-13	SB227-13	SB227-13	SB227-13	SB228-13
Sample Identification		SO-17360-042313-DR-027	SO-17360-042313-DR-028	SO-17360-042313-DR-029	SO-17360-042313-DR-030	SO-17360-042313-DR-031
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB227-13	SB227-13	SB227-13	SB227-13	SB228-13
Sample Identification		SO-17360-042313-DR-027	SO-17360-042313-DR-028	SO-17360-042313-DR-029	SO-17360-042313-DR-030	SO-17360-042313-DR-031
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB227-13	SB227-13	SB227-13	SB227-13	SB228-13
Sample Identification		SO-17360-042313-DR-027	SO-17360-042313-DR-028	SO-17360-042313-DR-029	SO-17360-042313-DR-030	SO-17360-042313-DR-031
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	320 U	320 U	320 U	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	1500	3000	2700	340 U	580

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB227-13	SB227-13	SB227-13	SB227-13	SB228-13
Sample Identification		SO-17360-042313-DR-027	SO-17360-042313-DR-028	SO-17360-042313-DR-029	SO-17360-042313-DR-030	SO-17360-042313-DR-031
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	1500	3000	2700	0	580

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB228-13	SB228-13	SB228-13	SB228-13
Sample Identification		SO-17360-042313-DR-032	SO-17360-042313-DR-033	SO-17360-042313-DR-034	SO-17360-042313-DR-035	SO-17360-042313-DR-036
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB228-13**	**SB228-13**	**SB228-13**	**SB228-13**	**SB228-13**
Sample Identification		**SO-17360-042313-DR-032**	**SO-17360-042313-DR-033**	**SO-17360-042313-DR-034**	**SO-17360-042313-DR-035**	**SO-17360-042313-DR-036**
Sample Date		**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**
Sample Type						
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB228-13	SB228-13	SB228-13	SB228-13
Sample Identification		SO-17360-042313-DR-032	SO-17360-042313-DR-033	SO-17360-042313-DR-034	SO-17360-042313-DR-035	SO-17360-042313-DR-036
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	330 U	330 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	2300	330 U	330 U	330 U	340 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB228-13	SB228-13	SB228-13	SB228-13
Sample Identification		SO-17360-042313-DR-032	SO-17360-042313-DR-033	SO-17360-042313-DR-034	SO-17360-042313-DR-035	SO-17360-042313-DR-036
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	2300	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB229-13	SB229-13	SB229-13	SB230-13
Sample Identification		SO-17360-042313-DR-037	SO-17360-042313-DR-038	SO-17360-042313-DR-039	SO-17360-042313-DR-040	SO-17360-042313-DR-041
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type		Duplicate				
Sample Depth		(10-12) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB229-13	SB229-13	SB229-13	SB230-13
Sample Identification		SO-17360-042313-DR-037	SO-17360-042313-DR-038	SO-17360-042313-DR-039	SO-17360-042313-DR-040	SO-17360-042313-DR-041
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type		Duplicate				
Sample Depth		(10-12) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)						
Isopropyl benzene	ug/kg	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB229-13	SB229-13	SB229-13	SB230-13
Sample Identification		SO-17360-042313-DR-037	SO-17360-042313-DR-038	SO-17360-042313-DR-039	SO-17360-042313-DR-040	SO-17360-042313-DR-041
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type		Duplicate				
Sample Depth		(10-12) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)						
Phenanthrene	ug/kg	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--
Metals						
Antimony	ug/kg	--	--	--	--	--
Arsenic	ug/kg	--	--	--	--	--
Barium	ug/kg	--	--	--	--	--
Beryllium	ug/kg	--	--	--	--	--
Cadmium	ug/kg	--	--	--	--	--
Chromium	ug/kg	--	--	--	--	--
Cobalt	ug/kg	--	--	--	--	--
Copper	ug/kg	--	--	--	--	--
Lead	ug/kg	--	--	--	--	--
Manganese	ug/kg	--	--	--	--	--
Mercury	ug/kg	--	--	--	--	--
Nickel	ug/kg	--	--	--	--	--
Selenium	ug/kg	--	--	--	--	--
Silver	ug/kg	--	--	--	--	--
Thallium	ug/kg	--	--	--	--	--
Vanadium	ug/kg	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	330 U	340 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	580	330 U	210 J	940

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB228-13	SB229-13	SB229-13	SB229-13	SB230-13
Sample Identification		SO-17360-042313-DR-037	SO-17360-042313-DR-038	SO-17360-042313-DR-039	SO-17360-042313-DR-040	SO-17360-042313-DR-041
Sample Date		4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Sample Type		Duplicate				
Sample Depth		(10-12) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	580	0	210 J	940

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB230-13	SB255-13	SB255-13	SB255-13
Sample Identification		SO-17360-042313-DR-042	SO-017360-081913-MR-010	SO-017360-081913-MR-011	SO-017360-081913-MR-012
Sample Date		4/23/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB230-13**	**SB255-13**	**SB255-13**	**SB255-13**
Sample Identification		**SO-17360-042313-DR-042**	**SO-017360-081913-MR-010**	**SO-017360-081913-MR-011**	**SO-017360-081913-MR-012**
Sample Date		**4/23/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB230-13	SB255-13	SB255-13	SB255-13
Sample Identification		SO-17360-042313-DR-042	SO-017360-081913-MR-010	SO-017360-081913-MR-011	SO-017360-081913-MR-012
Sample Date		4/23/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	330 U	340 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	330 U	340 U	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB230-13	SB255-13	SB255-13	SB255-13
Sample Identification		SO-17360-042313-DR-042	SO-017360-081913-MR-010	SO-017360-081913-MR-011	SO-017360-081913-MR-012
Sample Date		4/23/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB255-13**	**SB255-13**	**SB255-13**	**SB255-13**
Sample Identification		**SO-017360-081913-MR-013**	**SO-017360-081913-MR-018**	**SO-017360-081913-MR-014**	**SO-017360-081913-MR-015**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type			**Duplicate**		
Sample Depth		**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB255-13**	**SB255-13**	**SB255-13**	**SB255-13**
Sample Identification		**SO-017360-081913-MR-013**	**SO-017360-081913-MR-018**	**SO-017360-081913-MR-014**	**SO-017360-081913-MR-015**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type			**Duplicate**		
Sample Depth		**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB255-13	SB255-13	SB255-13	SB255-13
Sample Identification		SO-017360-081913-MR-013	SO-017360-081913-MR-018	SO-017360-081913-MR-014	SO-017360-081913-MR-015
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	340 U	350 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	340 U	350 U	330 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB255-13	SB255-13	SB255-13	SB255-13
Sample Identification		SO-017360-081913-MR-013	SO-017360-081913-MR-018	SO-017360-081913-MR-014	SO-017360-081913-MR-015
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB255-13**	**SB256-13**	**SB256-13**	**SB256-13**
Sample Identification		**SO-017360-081913-MR-016**	**SO-017360-081913-MR-001**	**SO-017360-081913-MR-002**	**SO-017360-081913-MR-003**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB255-13**	**SB256-13**	**SB256-13**	**SB256-13**
Sample Identification		**SO-017360-081913-MR-016**	**SO-017360-081913-MR-001**	**SO-017360-081913-MR-002**	**SO-017360-081913-MR-003**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB255-13	SB256-13	SB256-13	SB256-13
Sample Identification		SO-017360-081913-MR-016	SO-017360-081913-MR-001	SO-017360-081913-MR-002	SO-017360-081913-MR-003
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(14-16) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	320 U	340 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	320 U	340 U	330 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB255-13	SB256-13	SB256-13	SB256-13
Sample Identification		SO-017360-081913-MR-016	SO-017360-081913-MR-001	SO-017360-081913-MR-002	SO-017360-081913-MR-003
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(14-16) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB256-13**	**SB256-13**	**SB256-13**	**SB256-13**
Sample Identification		**SO-017360-081913-MR-004**	**SO-017360-081913-MR-005**	**SO-017360-081913-MR-009**	**SO-017360-081913-MR-006**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type				**Duplicate**	
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB256-13**	**SB256-13**	**SB256-13**	**SB256-13**
Sample Identification		**SO-017360-081913-MR-004**	**SO-017360-081913-MR-005**	**SO-017360-081913-MR-009**	**SO-017360-081913-MR-006**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type				**Duplicate**	
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB256-13	SB256-13	SB256-13	SB256-13
Sample Identification		SO-017360-081913-MR-004	SO-017360-081913-MR-005	SO-017360-081913-MR-009	SO-017360-081913-MR-006
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Duplicate	
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	320 U	340 U	330 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	320 U	340 U	330 U	340 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB256-13	SB256-13	SB256-13	SB256-13
Sample Identification		SO-017360-081913-MR-004	SO-017360-081913-MR-005	SO-017360-081913-MR-009	SO-017360-081913-MR-006
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type				Duplicate	
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB256-13**	**SB256-13**	**SB257-13**	**SB257-13**
Sample Identification		**SO-017360-081913-MR-007**	**SO-017360-081913-MR-008**	**SO-017360-081913-MR-058**	**SO-017360-081913-MR-059**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(14-16) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB256-13**	**SB256-13**	**SB257-13**	**SB257-13**
Sample Identification		**SO-017360-081913-MR-007**	**SO-017360-081913-MR-008**	**SO-017360-081913-MR-058**	**SO-017360-081913-MR-059**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(14-16) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB256-13	SB256-13	SB257-13	SB257-13
Sample Identification		SO-017360-081913-MR-007	SO-017360-081913-MR-008	SO-017360-081913-MR-058	SO-017360-081913-MR-059
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(12-14) ft BGS	(14-16) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	390 U	340 U	330 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	390 U	340 U	330 U	330 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB256-13	SB256-13	SB257-13	SB257-13
Sample Identification		SO-017360-081913-MR-007	SO-017360-081913-MR-008	SO-017360-081913-MR-058	SO-017360-081913-MR-059
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(12-14) ft BGS	(14-16) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB257-13**	**SB257-13**	**SB257-13**	**SB257-13**
Sample Identification		**SO-017360-081913-MR-060**	**SO-017360-081913-MR-061**	**SO-017360-081913-MR-062**	**SO-017360-081913-MR-064**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type			**Duplicate**		
Sample Depth		**(4-6) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB257-13**	**SB257-13**	**SB257-13**	**SB257-13**
Sample Identification		**SO-017360-081913-MR-060**	**SO-017360-081913-MR-061**	**SO-017360-081913-MR-062**	**SO-017360-081913-MR-064**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type			**Duplicate**		
Sample Depth		**(4-6) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB257-13	SB257-13	SB257-13	SB257-13
Sample Identification		SO-017360-081913-MR-060	SO-017360-081913-MR-061	SO-017360-081913-MR-062	SO-017360-081913-MR-064
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	330 U	330 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	330 U	330 U	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB257-13	SB257-13	SB257-13	SB257-13
Sample Identification		SO-017360-081913-MR-060	SO-017360-081913-MR-061	SO-017360-081913-MR-062	SO-017360-081913-MR-064
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB257-13**	**SB257-13**	**SB258-13**	**SB258-13**
Sample Identification		**SO-017360-081913-MR-065**	**SO-017360-081913-MR-066**	**SO-017360-081913-MR-051**	**SO-017360-081913-MR-052**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB257-13	SB257-13	SB258-13	SB258-13
Sample Identification		SO-017360-081913-MR-065	SO-017360-081913-MR-066	SO-017360-081913-MR-051	SO-017360-081913-MR-052
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB257-13	SB257-13	SB258-13	SB258-13
Sample Identification		SO-017360-081913-MR-065	SO-017360-081913-MR-066	SO-017360-081913-MR-051	SO-017360-081913-MR-052
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	330 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	330 U	62 J	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB257-13	SB257-13	SB258-13	SB258-13
Sample Identification		SO-017360-081913-MR-065	SO-017360-081913-MR-066	SO-017360-081913-MR-051	SO-017360-081913-MR-052
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	62 J	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB258-13**	**SB258-13**	**SB258-13**	**SB258-13**
Sample Identification		**SO-017360-081913-MR-053**	**SO-017360-081913-MR-054**	**SO-017360-081913-MR-055**	**SO-017360-081913-MR-056**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					**Duplicate**
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB258-13**	**SB258-13**	**SB258-13**	**SB258-13**
Sample Identification		**SO-017360-081913-MR-053**	**SO-017360-081913-MR-054**	**SO-017360-081913-MR-055**	**SO-017360-081913-MR-056**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					**Duplicate**
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB258-13	SB258-13	SB258-13	SB258-13
Sample Identification		SO-017360-081913-MR-053	SO-017360-081913-MR-054	SO-017360-081913-MR-055	SO-017360-081913-MR-056
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	320 U	330 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	38 J	320 U	330 U	330 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB258-13	SB258-13	SB258-13	SB258-13
Sample Identification		SO-017360-081913-MR-053	SO-017360-081913-MR-054	SO-017360-081913-MR-055	SO-017360-081913-MR-056
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	38 J	0	0	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB258-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-057	SO-017360-081913-MR-034	SO-017360-081913-MR-035	SO-017360-081913-MR-036
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					Duplicate
Sample Depth		(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB258-13**	**SB259-13**	**SB259-13**	**SB259-13**
Sample Identification		**SO-017360-081913-MR-057**	**SO-017360-081913-MR-034**	**SO-017360-081913-MR-035**	**SO-017360-081913-MR-036**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					**Duplicate**
Sample Depth		**(10-12) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB258-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-057	SO-017360-081913-MR-034	SO-017360-081913-MR-035	SO-017360-081913-MR-036
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					Duplicate
Sample Depth		(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	330 U	330 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	350 U	330 U	330 U	330 U

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB258-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-057	SO-017360-081913-MR-034	SO-017360-081913-MR-035	SO-017360-081913-MR-036
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					Duplicate
Sample Depth		(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB259-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-037	SO-017360-081913-MR-038	SO-017360-081913-MR-039	SO-017360-081913-MR-040
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB259-13**	**SB259-13**	**SB259-13**	**SB259-13**
Sample Identification		**SO-017360-081913-MR-037**	**SO-017360-081913-MR-038**	**SO-017360-081913-MR-039**	**SO-017360-081913-MR-040**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB259-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-037	SO-017360-081913-MR-038	SO-017360-081913-MR-039	SO-017360-081913-MR-040
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	330 U	320 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	350 U	330 U	320 U	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB259-13	SB259-13	SB259-13	SB259-13
Sample Identification		SO-017360-081913-MR-037	SO-017360-081913-MR-038	SO-017360-081913-MR-039	SO-017360-081913-MR-040
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
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Sample Location		**SB259-13**	**SB260-13**	**SB260-13**	**SB260-13**
Sample Identification		**SO-017360-081913-MR-041**	**SO-017360-081913-MR-042**	**SO-017360-081913-MR-043**	**SO-017360-081913-MR-045**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB259-13**	**SB260-13**	**SB260-13**	**SB260-13**
Sample Identification		**SO-017360-081913-MR-041**	**SO-017360-081913-MR-042**	**SO-017360-081913-MR-043**	**SO-017360-081913-MR-045**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB259-13**	**SB260-13**	**SB260-13**	**SB260-13**
Sample Identification		**SO-017360-081913-MR-041**	**SO-017360-081913-MR-042**	**SO-017360-081913-MR-043**	**SO-017360-081913-MR-045**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	330 U	380 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	330 U	330 U	380 U

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Wyoming, Michigan

Sample Location		SB259-13	SB260-13	SB260-13	SB260-13
Sample Identification		SO-017360-081913-MR-041	SO-017360-081913-MR-042	SO-017360-081913-MR-043	SO-017360-081913-MR-045
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Sample Location		SB260-13	SB260-13	SB260-13	SB260-13
Sample Identification		SO-017360-081913-MR-046	SO-017360-081913-MR-047	SO-017360-081913-MR-048	SO-017360-081913-MR-049
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB260-13**	**SB260-13**	**SB260-13**	**SB260-13**
Sample Identification		**SO-017360-081913-MR-046**	**SO-017360-081913-MR-047**	**SO-017360-081913-MR-048**	**SO-017360-081913-MR-049**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type		**Duplicate**			
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB260-13	SB260-13	SB260-13	SB260-13
Sample Identification		SO-017360-081913-MR-046	SO-017360-081913-MR-047	SO-017360-081913-MR-048	SO-017360-081913-MR-049
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	370 U	430 U	350 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	370 U	430 U	350 U	340 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Wyoming, Michigan

Sample Location		SB260-13	SB260-13	SB260-13	SB260-13
Sample Identification		SO-017360-081913-MR-046	SO-017360-081913-MR-047	SO-017360-081913-MR-048	SO-017360-081913-MR-049
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB260-13**	**SB261-13**	**SB261-13**	**SB261-13**
Sample Identification		**SO-017360-081913-MR-050**	**SO-017360-081913-MR-027**	**SO-017360-081913-MR-028**	**SO-017360-081913-MR-029**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB260-13**	**SB261-13**	**SB261-13**	**SB261-13**
Sample Identification		**SO-017360-081913-MR-050**	**SO-017360-081913-MR-027**	**SO-017360-081913-MR-028**	**SO-017360-081913-MR-029**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(12-14) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB260-13	SB261-13	SB261-13	SB261-13
Sample Identification		SO-017360-081913-MR-050	SO-017360-081913-MR-027	SO-017360-081913-MR-028	SO-017360-081913-MR-029
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	340 U	340 U	330 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	340 U	340 U	330 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB260-13	SB261-13	SB261-13	SB261-13
Sample Identification		SO-017360-081913-MR-050	SO-017360-081913-MR-027	SO-017360-081913-MR-028	SO-017360-081913-MR-029
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(12-14) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB261-13	SB261-13	SB261-13	SB261-13
Sample Identification		SO-017360-081913-MR-030	SO-017360-081913-MR-031	SO-017360-081913-MR-032	SO-017360-081913-MR-033
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Wyoming, Michigan

Sample Location		**SB261-13**	**SB261-13**	**SB261-13**	**SB261-13**
Sample Identification		**SO-017360-081913-MR-030**	**SO-017360-081913-MR-031**	**SO-017360-081913-MR-032**	**SO-017360-081913-MR-033**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 24 – Former Tar House
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB261-13	SB261-13	SB261-13	SB261-13
Sample Identification		SO-017360-081913-MR-030	SO-017360-081913-MR-031	SO-017360-081913-MR-032	SO-017360-081913-MR-033
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	330 U	340 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	330 U	340 U	320 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB261-13	SB261-13	SB261-13	SB261-13
Sample Identification		SO-017360-081913-MR-030	SO-017360-081913-MR-031	SO-017360-081913-MR-032	SO-017360-081913-MR-033
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB262-13	SB262-13	SB262-13	SB262-13
Sample Identification		SO-017360-081913-MR-019	SO-017360-081913-MR-020	SO-017360-081913-MR-021	SO-017360-081913-MR-022
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB262-13**	**SB262-13**	**SB262-13**	**SB262-13**
Sample Identification		**SO-017360-081913-MR-019**	**SO-017360-081913-MR-020**	**SO-017360-081913-MR-021**	**SO-017360-081913-MR-022**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB262-13**	**SB262-13**	**SB262-13**	**SB262-13**
Sample Identification		**SO-017360-081913-MR-019**	**SO-017360-081913-MR-020**	**SO-017360-081913-MR-021**	**SO-017360-081913-MR-022**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**	**AOI 24**
SVOCs (continued)					
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	340 U	320 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	340 U	320 U	340 U

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB262-13	SB262-13	SB262-13	SB262-13
Sample Identification		SO-017360-081913-MR-019	SO-017360-081913-MR-020	SO-017360-081913-MR-021	SO-017360-081913-MR-022
Sample Date		8/19/2013	8/19/2013	8/19/2013	8/19/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0	0

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB262-13**	**SB262-13**	**SB262-13**
Sample Identification		**SO-017360-081913-MR-023**	**SO-017360-081913-MR-024**	**SO-017360-081913-MR-026**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type		**Duplicate**		
Sample Depth		**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--
2-Hexanone	ug/kg	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--
Acetone	ug/kg	--	--	--
Benzene	ug/kg	--	--	--
Bromodichloromethane	ug/kg	--	--	--
Bromoform	ug/kg	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--
Carbon disulfide	ug/kg	--	--	--
Carbon tetrachloride	ug/kg	--	--	--
Chlorobenzene	ug/kg	--	--	--
Chloroethane	ug/kg	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--
Cyclohexane	ug/kg	--	--	--
Dibromochloromethane	ug/kg	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--
Ethylbenzene	ug/kg	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB262-13**	**SB262-13**	**SB262-13**
Sample Identification		**SO-017360-081913-MR-023**	**SO-017360-081913-MR-024**	**SO-017360-081913-MR-026**
Sample Date		**8/19/2013**	**8/19/2013**	**8/19/2013**
Sample Type		**Duplicate**		
Sample Depth		**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 24**	**AOI 24**	**AOI 24**
VOCs (continued)				
Isopropyl benzene	ug/kg	--	--	--
Methyl acetate	ug/kg	--	--	--
Methyl cyclohexane	ug/kg	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--
Methylene chloride	ug/kg	--	--	--
Styrene	ug/kg	--	--	--
Tetrachloroethene	ug/kg	--	--	--
Toluene	ug/kg	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--
Trichloroethene	ug/kg	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--
Vinyl chloride	ug/kg	--	--	--
Xylenes (total)	ug/kg	--	--	--
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	--	--	--
Acenaphthene	ug/kg	--	--	--
Acenaphthylene	ug/kg	--	--	--
Anthracene	ug/kg	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--
Chrysene	ug/kg	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--
Fluoranthene	ug/kg	--	--	--
Fluorene	ug/kg	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--
Naphthalene	ug/kg	--	--	--

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB262-13	SB262-13	SB262-13
Sample Identification		SO-017360-081913-MR-023	SO-017360-081913-MR-024	SO-017360-081913-MR-026
Sample Date		8/19/2013	8/19/2013	8/19/2013
Sample Type		Duplicate		
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24
SVOCs (continued)				
Phenanthrene	ug/kg	--	--	--
Pyrene	ug/kg	--	--	--
Metals				
Antimony	ug/kg	--	--	--
Arsenic	ug/kg	--	--	--
Barium	ug/kg	--	--	--
Beryllium	ug/kg	--	--	--
Cadmium	ug/kg	--	--	--
Chromium	ug/kg	--	--	--
Cobalt	ug/kg	--	--	--
Copper	ug/kg	--	--	--
Lead	ug/kg	--	--	--
Manganese	ug/kg	--	--	--
Mercury	ug/kg	--	--	--
Nickel	ug/kg	--	--	--
Selenium	ug/kg	--	--	--
Silver	ug/kg	--	--	--
Thallium	ug/kg	--	--	--
Vanadium	ug/kg	--	--	--
Zinc	ug/kg	--	--	--
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	340 U	340 U

Table 3.28

Soil Sample Analytical Results - AOI 24 – Former Tar House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB262-13	SB262-13	SB262-13
Sample Identification		SO-017360-081913-MR-023	SO-017360-081913-MR-024	SO-017360-081913-MR-026
Sample Date		8/19/2013	8/19/2013	8/19/2013
Sample Type		Duplicate		
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 24	AOI 24	AOI 24
Total PCBs	ug/kg	0	0	0

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB1-04	SB1-04	SB1-04	SB1-04	SB1-04
Sample Identification		S-17360-071504-DCR-122	S-17360-071504-DCR-123	S-17360-071504-DCR-124	S-17360-071504-DCR-125	S-17360-071504-DCR-126
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	59 U	56 U	57 U	58 U	59 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	110 U	110 U	120 U	120 U
1,1,2-Trichloroethane	ug/kg	59 U	56 U	57 U	58 U	59 U
1,1-Dichloroethane	ug/kg	59 U	56 U	57 U	58 U	59 U
1,1-Dichloroethene	ug/kg	59 U	56 U	57 U	58 U	59 U
1,2,4-Trichlorobenzene	ug/kg	290 U	280 U	280 U	290 U	30 J
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	280 U	280 U	290 U	300 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	280 U	280 U	290 U	300 U
1,2-Dichlorobenzene	ug/kg	120 U	110 U	110 U	120 U	120 U
1,2-Dichloroethane	ug/kg	59 U	56 U	57 U	58 U	59 U
1,2-Dichloropropane	ug/kg	59 U	56 U	57 U	58 U	59 U
1,3-Dichlorobenzene	ug/kg	120 U	110 U	110 U	120 U	120 U
1,4-Dichlorobenzene	ug/kg	120 U	110 U	110 U	120 U	120 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	880 U	840 U	850 U	870 U	890 U
2-Hexanone	ug/kg	2900 U	2800 U	2800 U	2900 U	3000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	2800 U	2800 U	2900 U	3000 U
Acetone	ug/kg	880 U	840 U	850 U	870 U	890 U
Benzene	ug/kg	59 U	56 U	57 U	58 U	59 U
Bromodichloromethane	ug/kg	120 U	110 U	110 U	120 U	120 U
Bromoform	ug/kg	120 U	110 U	110 U	120 U	120 U
Bromomethane (Methyl bromide)	ug/kg	290 U	280 U	280 U	290 U	300 U
Carbon disulfide	ug/kg	290 U	280 U	280 U	290 U	300 U
Carbon tetrachloride	ug/kg	59 U	56 U	57 U	58 U	59 U
Chlorobenzene	ug/kg	59 U	56 U	57 U	58 U	59 U
Chloroethane	ug/kg	290 U	280 U	280 U	290 U	300 U
Chloroform (Trichloromethane)	ug/kg	59 U	56 U	57 U	58 U	59 U
Chloromethane (Methyl chloride)	ug/kg	290 U	280 U	280 U	290 U	300 U
cis-1,2-Dichloroethene	ug/kg	59 U	56 U	57 U	58 U	59 U
cis-1,3-Dichloropropene	ug/kg	59 U	56 U	57 U	58 U	59 U
Cyclohexane	ug/kg	1400 U	1400 U	1400 U	1400 U	1400 U
Dibromochloromethane	ug/kg	59 U	56 U	57 U	58 U	59 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	110 U	110 U	120 U	120 U
Ethylbenzene	ug/kg	59 U	56 U	57 U	58 U	59 U
Isopropyl benzene	ug/kg	290 U	280 U	280 U	290 U	300 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB1-04**	**SB1-04**	**SB1-04**	**SB1-04**	**SB1-04**
Sample Identification		**S-17360-071504-DCR-122**	**S-17360-071504-DCR-123**	**S-17360-071504-DCR-124**	**S-17360-071504-DCR-125**	**S-17360-071504-DCR-126**
Sample Date		**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1400 U	1400 U	1400 U	1400 U	1400 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	39 J	1400 U	1400 U	1400 U	1400 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	280 U	280 U	290 U	300 U
Methylene chloride	ug/kg	290 U	280 U	280 U	290 U	300 U
Styrene	ug/kg	59 U	56 U	57 U	58 U	59 U
Tetrachloroethene	ug/kg	59 U	56 U	57 U	58 U	59 U
Toluene	ug/kg	21 J	110 U	110 U	120 U	120 U
trans-1,2-Dichloroethene	ug/kg	59 U	56 U	57 U	58 U	59 U
trans-1,3-Dichloropropene	ug/kg	59 U	56 U	57 U	58 U	59 U
Trichloroethene	ug/kg	**2000**[bcef]	56 U	57 U	58 U	59 U
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	110 U	110 U	120 U	120 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	280 U	280 U	290 U	300 U
Vinyl chloride	ug/kg	120 U	110 U	110 U	120 U	120 U
Xylenes (total)	ug/kg	38 J	170 U	170 U	170 U	180 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB1-04	SB1-04	SB1-04	SB1-04	SB1-04
Sample Identification		S-17360-071504-DCR-127	S-17360-071504-DCR-128	S-17360-071504-DCR-129	S-17360-071504-DCR-130	S-17360-071504-DCR-131
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	58 U	58 U	57 U	75 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	120 U	110 U	150 U	100 U
1,1,2-Trichloroethane	ug/kg	58 U	58 U	57 U	75 U	52 U
1,1-Dichloroethane	ug/kg	58 U	58 U	57 U	75 U	52 U
1,1-Dichloroethene	ug/kg	58 U	58 U	57 U	75 U	52 U
1,2,4-Trichlorobenzene	ug/kg	290 U	290 U	290 U	380 U	260 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	290 U	290 U	380 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	290 U	290 U	380 U	260 U
1,2-Dichlorobenzene	ug/kg	120 U	120 U	110 U	150 U	100 U
1,2-Dichloroethane	ug/kg	58 U	58 U	57 U	75 U	52 U
1,2-Dichloropropane	ug/kg	58 U	58 U	57 U	75 U	52 U
1,3-Dichlorobenzene	ug/kg	120 U	120 U	110 U	150 U	100 U
1,4-Dichlorobenzene	ug/kg	120 U	120 U	110 U	150 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	870 U	880 U	860 U	1100 U	780 U
2-Hexanone	ug/kg	2900 U	2900 U	2900 U	3800 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	2900 U	2900 U	3800 U	2600 U
Acetone	ug/kg	870 U	880 U	860 U	1100 U	780 U
Benzene	ug/kg	58 U	58 U	57 U	75 U	52 U
Bromodichloromethane	ug/kg	120 U	120 U	110 U	150 U	100 U
Bromoform	ug/kg	120 U	120 U	110 U	150 U	100 U
Bromomethane (Methyl bromide)	ug/kg	290 U	290 U	290 U	380 U	260 U
Carbon disulfide	ug/kg	290 U	290 U	290 U	380 U	260 U
Carbon tetrachloride	ug/kg	58 U	58 U	57 U	75 U	52 U
Chlorobenzene	ug/kg	58 U	58 U	57 U	75 U	52 U
Chloroethane	ug/kg	290 U	290 U	290 U	380 U	260 U
Chloroform (Trichloromethane)	ug/kg	58 U	58 U	57 U	75 U	52 U
Chloromethane (Methyl chloride)	ug/kg	290 U	290 U	290 U	380 U	260 U
cis-1,2-Dichloroethene	ug/kg	58 U	58 U	57 U	75 U	52 U
cis-1,3-Dichloropropene	ug/kg	58 U	58 U	57 U	75 U	52 U
Cyclohexane	ug/kg	1400 U	1400 U	1400 U	1800 U	1200 U
Dibromochloromethane	ug/kg	58 U	58 U	57 U	75 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	120 U	110 U	150 U	100 U
Ethylbenzene	ug/kg	58 U	58 U	57 U	75 U	52 U
Isopropyl benzene	ug/kg	290 U	290 U	290 U	380 U	260 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB1-04**	**SB1-04**	**SB1-04**	**SB1-04**	**SB1-04**
Sample Identification		**S-17360-071504-DCR-127**	**S-17360-071504-DCR-128**	**S-17360-071504-DCR-129**	**S-17360-071504-DCR-130**	**S-17360-071504-DCR-131**
Sample Date		**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1400 U	1400 U	1400 U	1800 U	1200 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1400 U	1400 U	1400 U	1800 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	290 U	290 U	380 U	260 U
Methylene chloride	ug/kg	290 U	290 U	290 U	380 U	260 U
Styrene	ug/kg	58 U	58 U	57 U	75 U	52 U
Tetrachloroethene	ug/kg	58 U	58 U	57 U	75 U	52 U
Toluene	ug/kg	120 U	120 U	110 U	150 U	100 U
trans-1,2-Dichloroethene	ug/kg	58 U	58 U	57 U	75 U	52 U
trans-1,3-Dichloropropene	ug/kg	58 U	58 U	57 U	75 U	52 U
Trichloroethene	ug/kg	58 U	16 J	14 J	75 U	52 U
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	120 U	110 U	150 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	290 U	290 U	380 U	260 U
Vinyl chloride	ug/kg	120 U	120 U	110 U	150 U	100 U
Xylenes (total)	ug/kg	170 U	180 U	170 U	230 U	160 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB1-04	SB2-04	SB2-04	SB2-04	SB2-04
Sample Identification		S-17360-071504-DCR-132	S-17360-071404-DCR-089	S-17360-071404-DCR-090	S-17360-071404-DCR-091	S-17360-071404-DCR-092
Sample Date		7/15/2004	7/14/2004	7/14/2004	7/14/2004	7/14/2004
Sample Type						
Sample Depth		(20-22) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	59 U	430 U	58 U	61 U	59 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	860 U	120 U	120 U	120 U
1,1,2-Trichloroethane	ug/kg	59 U	430 U	58 U	61 U	59 U
1,1-Dichloroethane	ug/kg	59 U	430 U	58 U	61 U	59 U
1,1-Dichloroethene	ug/kg	59 U	430 U	58 U	61 U	59 U
1,2,4-Trichlorobenzene	ug/kg	290 U	2200 U	290 U	310 U	290 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	2200 U	290 U	310 U	290 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	2200 U	290 U	310 U	290 U
1,2-Dichlorobenzene	ug/kg	120 U	860 U	120 U	120 U	120 U
1,2-Dichloroethane	ug/kg	59 U	430 U	58 U	61 U	59 U
1,2-Dichloropropane	ug/kg	59 U	430 U	58 U	61 U	59 U
1,3-Dichlorobenzene	ug/kg	120 U	860 U	120 U	120 U	120 U
1,4-Dichlorobenzene	ug/kg	120 U	860 U	120 U	120 U	120 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	880 U	6500 U	870 U	920 U	880 U
2-Hexanone	ug/kg	2900 U	22000 U	2900 U	3100 U	2900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	22000 U	2900 U	3100 U	2900 U
Acetone	ug/kg	880 U	6500 U	870 U	920 U	880 U
Benzene	ug/kg	59 U	430 U	58 U	61 U	59 U
Bromodichloromethane	ug/kg	120 U	860 U	120 U	120 U	120 U
Bromoform	ug/kg	120 U	860 U	120 U	120 U	120 U
Bromomethane (Methyl bromide)	ug/kg	290 U	2200 U	290 U	310 U	290 U
Carbon disulfide	ug/kg	290 U	2200 U	290 U	310 U	290 U
Carbon tetrachloride	ug/kg	59 U	430 U	58 U	61 U	59 U
Chlorobenzene	ug/kg	59 U	430 U	58 U	61 U	59 U
Chloroethane	ug/kg	290 U	2200 U	290 U	310 U	290 U
Chloroform (Trichloromethane)	ug/kg	59 U	430 U	58 U	61 U	59 U
Chloromethane (Methyl chloride)	ug/kg	290 U	2200 U	290 U	310 U	290 U
cis-1,2-Dichloroethene	ug/kg	59 U	430 U	58 U	61 U	59 U
cis-1,3-Dichloropropene	ug/kg	59 U	430 U	58 U	61 U	59 U
Cyclohexane	ug/kg	1400 U	10000 U	1400 U	1500 U	1400 U
Dibromochloromethane	ug/kg	59 U	430 U	58 U	61 U	59 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	860 U	120 U	120 U	120 U
Ethylbenzene	ug/kg	59 U	430 U	58 U	61 U	59 U
Isopropyl benzene	ug/kg	290 U	2200 U	290 U	310 U	290 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB1-04**	**SB2-04**	**SB2-04**	**SB2-04**	**SB2-04**
Sample Identification		**S-17360-071504-DCR-132**	**S-17360-071404-DCR-089**	**S-17360-071404-DCR-090**	**S-17360-071404-DCR-091**	**S-17360-071404-DCR-092**
Sample Date		**7/15/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**
Sample Type						
Sample Depth		**(20-22) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1400 U	10000 U	1400 U	1500 U	1400 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1400 U	200 J	1400 U	1500 U	1400 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	2200 U	290 U	310 U	290 U
Methylene chloride	ug/kg	290 U	2200 U	290 U	310 U	290 U
Styrene	ug/kg	59 U	430 U	58 U	61 U	59 U
Tetrachloroethene	ug/kg	59 U	430 U	58 U	61 U	59 U
Toluene	ug/kg	120 U	160 J	120 U	120 U	120 U
trans-1,2-Dichloroethene	ug/kg	59 U	430 U	58 U	61 U	59 U
trans-1,3-Dichloropropene	ug/kg	59 U	430 U	58 U	61 U	59 U
Trichloroethene	ug/kg	59 U	**12000**[bcdefg]	58 U	61 U	59 U
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	860 U	120 U	120 U	120 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	2200 U	290 U	310 U	290 U
Vinyl chloride	ug/kg	120 U	860 U	120 U	120 U	120 U
Xylenes (total)	ug/kg	180 U	280 J	170 U	180 U	180 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB2-04	SB2-04	SB2-04	SB2-04	SB2-04
Sample Identification		S-17360-071404-DCR-093	S-17360-071404-DCR-094	S-17360-071404-DCR-095	S-17360-071404-DCR-096	S-17360-071404-DCR-097
Sample Date		7/14/2004	7/14/2004	7/14/2004	7/14/2004	7/14/2004
Sample Type						
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	58 U	61 U	55 U	57 U	55 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	120 U	110 U	110 U	110 U
1,1,2-Trichloroethane	ug/kg	58 U	61 U	55 U	57 U	55 U
1,1-Dichloroethane	ug/kg	58 U	61 U	55 U	57 U	55 U
1,1-Dichloroethene	ug/kg	58 U	61 U	55 U	57 U	55 U
1,2,4-Trichlorobenzene	ug/kg	290 U	310 U	270 U	290 U	280 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	310 U	270 U	290 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	310 U	270 U	290 U	280 U
1,2-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	110 U
1,2-Dichloroethane	ug/kg	58 U	61 U	55 U	57 U	55 U
1,2-Dichloropropane	ug/kg	58 U	61 U	55 U	57 U	55 U
1,3-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	110 U
1,4-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	110 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	880 U	920 U	820 U	860 U	830 U
2-Hexanone	ug/kg	2900 U	3100 U	2700 U	2900 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	3100 U	2700 U	2900 U	2800 U
Acetone	ug/kg	880 U	920 U	820 U	860 U	830 U
Benzene	ug/kg	58 U	61 U	55 U	57 U	55 U
Bromodichloromethane	ug/kg	120 U	120 U	110 U	110 U	110 U
Bromoform	ug/kg	120 U	120 U	110 U	110 U	110 U
Bromomethane (Methyl bromide)	ug/kg	290 U	310 U	270 U	290 U	280 U
Carbon disulfide	ug/kg	290 U	310 U	270 U	290 U	280 U
Carbon tetrachloride	ug/kg	58 U	61 U	55 U	57 U	55 U
Chlorobenzene	ug/kg	58 U	61 U	55 U	57 U	55 U
Chloroethane	ug/kg	290 U	310 U	270 U	290 U	280 U
Chloroform (Trichloromethane)	ug/kg	58 U	61 U	55 U	57 U	55 U
Chloromethane (Methyl chloride)	ug/kg	290 U	310 U	270 U	290 U	280 U
cis-1,2-Dichloroethene	ug/kg	58 U	61 U	55 U	57 U	55 U
cis-1,3-Dichloropropene	ug/kg	58 U	61 U	55 U	57 U	55 U
Cyclohexane	ug/kg	1400 U	1500 U	1300 U	1400 U	1300 U
Dibromochloromethane	ug/kg	58 U	61 U	55 U	57 U	55 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	120 U	110 U	110 U	110 U
Ethylbenzene	ug/kg	58 U	61 U	55 U	57 U	55 U
Isopropyl benzene	ug/kg	290 U	310 U	270 U	290 U	280 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB2-04**	**SB2-04**	**SB2-04**	**SB2-04**	**SB2-04**
Sample Identification		**S-17360-071404-DCR-093**	**S-17360-071404-DCR-094**	**S-17360-071404-DCR-095**	**S-17360-071404-DCR-096**	**S-17360-071404-DCR-097**
Sample Date		**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**
Sample Type						
Sample Depth		**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1400 U	1500 U	1300 U	1400 U	1300 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1400 U	1500 U	1300 U	1400 U	1300 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	310 U	270 U	290 U	280 U
Methylene chloride	ug/kg	290 U	310 U	270 U	290 U	280 U
Styrene	ug/kg	58 U	61 U	55 U	57 U	55 U
Tetrachloroethene	ug/kg	58 U	61 U	55 U	57 U	55 U
Toluene	ug/kg	120 U	120 U	110 U	110 U	110 U
trans-1,2-Dichloroethene	ug/kg	58 U	61 U	55 U	57 U	55 U
trans-1,3-Dichloropropene	ug/kg	58 U	61 U	55 U	57 U	55 U
Trichloroethene	ug/kg	40 J	22 J	22 J	87	63
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	120 U	110 U	110 U	110 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	310 U	270 U	290 U	280 U
Vinyl chloride	ug/kg	120 U	120 U	110 U	110 U	110 U
Xylenes (total)	ug/kg	180 U	180 U	160 U	170 U	170 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB2-04	SB2-04	SB3-04	SB3-04	SB3-04
Sample Identification		S-17360-071404-DCR-098	S-17360-071404-DCR-099	S-17360-071404-DCR-078	S-17360-071404-DCR-079	S-17360-071404-DCR-080
Sample Date		7/14/2004	7/14/2004	7/14/2004	7/14/2004	7/14/2004
Sample Type						
Sample Depth		(18-20) ft BGS	(20-22) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	59 U	55 U	110 U	63 U	59 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	110 U	220 U	130 U	120 U
1,1,2-Trichloroethane	ug/kg	59 U	55 U	110 U	63 U	59 U
1,1-Dichloroethane	ug/kg	59 U	55 U	110 U	63 U	59 U
1,1-Dichloroethene	ug/kg	59 U	55 U	110 U	63 U	59 U
1,2,4-Trichlorobenzene	ug/kg	300 U	280 U	540 U	320 U	300 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	300 U	280 U	540 U	320 U	300 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	300 U	280 U	540 U	320 U	300 U
1,2-Dichlorobenzene	ug/kg	120 U	110 U	220 U	130 U	120 U
1,2-Dichloroethane	ug/kg	59 U	55 U	110 U	63 U	59 U
1,2-Dichloropropane	ug/kg	59 U	55 U	110 U	63 U	59 U
1,3-Dichlorobenzene	ug/kg	120 U	110 U	220 U	130 U	120 U
1,4-Dichlorobenzene	ug/kg	120 U	110 U	220 U	130 U	120 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	890 U	830 U	1600 U	950 U	890 U
2-Hexanone	ug/kg	3000 U	2800 U	5400 U	3200 U	3000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3000 U	2800 U	5400 U	3200 U	3000 U
Acetone	ug/kg	890 U	830 U	1600 U	950 U	890 U
Benzene	ug/kg	59 U	55 U	110 U	63 U	59 U
Bromodichloromethane	ug/kg	120 U	110 U	220 U	130 U	120 U
Bromoform	ug/kg	120 U	110 U	220 U	130 U	120 U
Bromomethane (Methyl bromide)	ug/kg	300 U	280 U	540 U	320 U	300 U
Carbon disulfide	ug/kg	300 U	280 U	540 U	320 U	300 U
Carbon tetrachloride	ug/kg	59 U	55 U	110 U	63 U	59 U
Chlorobenzene	ug/kg	59 U	55 U	110 U	63 U	59 U
Chloroethane	ug/kg	300 U	280 U	540 U	320 U	300 U
Chloroform (Trichloromethane)	ug/kg	59 U	55 U	110 U	63 U	59 U
Chloromethane (Methyl chloride)	ug/kg	300 U	280 U	540 U	320 U	300 U
cis-1,2-Dichloroethene	ug/kg	59 U	55 U	110 U	63 U	59 U
cis-1,3-Dichloropropene	ug/kg	59 U	55 U	110 U	63 U	59 U
Cyclohexane	ug/kg	1400 U	1300 U	18 J	1500 U	1400 U
Dibromochloromethane	ug/kg	59 U	55 U	110 U	63 U	59 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	110 U	220 U	130 U	120 U
Ethylbenzene	ug/kg	59 U	55 U	110 U	63 U	59 U
Isopropyl benzene	ug/kg	300 U	280 U	540 U	320 U	300 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB2-04	SB2-04	SB3-04	SB3-04	SB3-04
Sample Identification		S-17360-071404-DCR-098	S-17360-071404-DCR-099	S-17360-071404-DCR-078	S-17360-071404-DCR-079	S-17360-071404-DCR-080
Sample Date		7/14/2004	7/14/2004	7/14/2004	7/14/2004	7/14/2004
Sample Type						
Sample Depth		(18-20) ft BGS	(20-22) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Methyl acetate	ug/kg	1400 U	1300 U	2600 U	1500 U	1400 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1400 U	1300 U	100 J	1500 U	1400 U
Methyl tert butyl ether (MTBE)	ug/kg	300 U	280 U	540 U	320 U	300 U
Methylene chloride	ug/kg	300 U	280 U	540 U	320 U	300 U
Styrene	ug/kg	59 U	55 U	110 U	63 U	59 U
Tetrachloroethene	ug/kg	59 U	55 U	110 U	63 U	59 U
Toluene	ug/kg	120 U	110 U	42 J	130 U	120 U
trans-1,2-Dichloroethene	ug/kg	59 U	55 U	110 U	63 U	59 U
trans-1,3-Dichloropropene	ug/kg	59 U	55 U	110 U	63 U	59 U
Trichloroethene	ug/kg	27 J	46 J	**2800**[bcef]	63 U	20 J
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	110 U	220 U	130 U	120 U
Trifluorotrichloroethane (Freon 113)	ug/kg	300 U	280 U	540 U	320 U	300 U
Vinyl chloride	ug/kg	120 U	110 U	220 U	130 U	120 U
Xylenes (total)	ug/kg	180 U	170 U	84 J	190 U	180 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB3-04	SB3-04	SB3-04	SB3-04	SB3-04
Sample Identification		S-17360-071404-DCR-081	S-17360-071404-DCR-082	S-17360-071404-DCR-083	S-17360-071404-DCR-084	S-17360-071404-DCR-085
Sample Date		7/14/2004	7/14/2004	7/14/2004	7/14/2004	7/14/2004
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	79 U	53 U	51 U	50 U	53 U
1,1,2,2-Tetrachloroethane	ug/kg	160 U	110 U	100 U	100 U	110 U
1,1,2-Trichloroethane	ug/kg	79 U	53 U	51 U	50 U	53 U
1,1-Dichloroethane	ug/kg	79 U	53 U	51 U	50 U	53 U
1,1-Dichloroethene	ug/kg	79 U	53 U	51 U	50 U	53 U
1,2,4-Trichlorobenzene	ug/kg	400 U	270 U	260 U	250 U	260 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	400 U	270 U	260 U	250 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	400 U	270 U	260 U	250 U	260 U
1,2-Dichlorobenzene	ug/kg	160 U	110 U	100 U	100 U	110 U
1,2-Dichloroethane	ug/kg	79 U	53 U	51 U	50 U	53 U
1,2-Dichloropropane	ug/kg	79 U	53 U	51 U	50 U	53 U
1,3-Dichlorobenzene	ug/kg	160 U	110 U	100 U	100 U	110 U
1,4-Dichlorobenzene	ug/kg	160 U	110 U	100 U	100 U	110 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1200 U	800 U	770 U	750 U	790 U
2-Hexanone	ug/kg	4000 U	2700 U	2600 U	2500 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	4000 U	2700 U	2600 U	2500 U	2600 U
Acetone	ug/kg	1200 U	800 U	770 U	750 U	790 U
Benzene	ug/kg	79 U	53 U	51 U	50 U	53 U
Bromodichloromethane	ug/kg	160 U	110 U	100 U	100 U	110 U
Bromoform	ug/kg	160 U	110 U	100 U	100 U	110 U
Bromomethane (Methyl bromide)	ug/kg	400 U	270 U	260 U	250 U	260 U
Carbon disulfide	ug/kg	400 U	270 U	260 U	250 U	260 U
Carbon tetrachloride	ug/kg	79 U	53 U	51 U	50 U	53 U
Chlorobenzene	ug/kg	79 U	53 U	51 U	50 U	53 U
Chloroethane	ug/kg	400 U	270 U	260 U	250 U	260 U
Chloroform (Trichloromethane)	ug/kg	79 U	53 U	51 U	50 U	53 U
Chloromethane (Methyl chloride)	ug/kg	400 U	270 U	260 U	250 U	260 U
cis-1,2-Dichloroethene	ug/kg	79 U	53 U	51 U	50 U	53 U
cis-1,3-Dichloropropene	ug/kg	79 U	53 U	51 U	50 U	53 U
Cyclohexane	ug/kg	1900 U	1300 U	1200 U	1200 U	1300 U
Dibromochloromethane	ug/kg	79 U	53 U	51 U	50 U	53 U
Dichlorodifluoromethane (CFC-12)	ug/kg	160 U	110 U	100 U	100 U	110 U
Ethylbenzene	ug/kg	79 U	53 U	51 U	50 U	53 U
Isopropyl benzene	ug/kg	400 U	270 U	260 U	250 U	260 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB3-04**	**SB3-04**	**SB3-04**	**SB3-04**	**SB3-04**
Sample Identification		**S-17360-071404-DCR-081**	**S-17360-071404-DCR-082**	**S-17360-071404-DCR-083**	**S-17360-071404-DCR-084**	**S-17360-071404-DCR-085**
Sample Date		**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/14/2004**
Sample Type						
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1900 U	1300 U	1200 U	1200 U	1300 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1900 U	1300 U	1200 U	1200 U	1300 U
Methyl tert butyl ether (MTBE)	ug/kg	400 U	270 U	260 U	250 U	260 U
Methylene chloride	ug/kg	400 U	270 U	260 U	250 U	260 U
Styrene	ug/kg	79 U	53 U	51 U	50 U	53 U
Tetrachloroethene	ug/kg	79 U	53 U	51 U	50 U	53 U
Toluene	ug/kg	160 U	110 U	100 U	100 U	110 U
trans-1,2-Dichloroethene	ug/kg	79 U	53 U	51 U	50 U	53 U
trans-1,3-Dichloropropene	ug/kg	79 U	53 U	51 U	50 U	53 U
Trichloroethene	ug/kg	79 U	78	24 J	40 J	31 J
Trichlorofluoromethane (CFC-11)	ug/kg	160 U	110 U	100 U	100 U	110 U
Trifluorotrichloroethane (Freon 113)	ug/kg	400 U	270 U	260 U	250 U	260 U
Vinyl chloride	ug/kg	160 U	110 U	100 U	100 U	110 U
Xylenes (total)	ug/kg	240 U	160 U	150 U	150 U	160 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB3-04	SB3-04	SB3-04	SB4-04	SB4-04
Sample Identification		S-17360-071404-DCR-086	S-17360-071404-DCR-087	S-17360-071404-DCR-088	S-17360-071504-DCR-111	S-17360-071504-DCR-112
Sample Date		7/14/2004	7/14/2004	7/14/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(16-18) ft BGS	(18-20) ft BGS	(20-22) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	58 U	55 U	53 U	66 U	76 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	110 U	110 U	130 U	150 U
1,1,2-Trichloroethane	ug/kg	58 U	55 U	53 U	66 U	76 U
1,1-Dichloroethane	ug/kg	58 U	55 U	53 U	66 U	76 U
1,1-Dichloroethene	ug/kg	58 U	55 U	53 U	66 U	76 U
1,2,4-Trichlorobenzene	ug/kg	290 U	270 U	260 U	330 U	380 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	290 U	270 U	260 U	330 U	380 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	290 U	270 U	260 U	330 U	380 U
1,2-Dichlorobenzene	ug/kg	120 U	110 U	110 U	130 U	150 U
1,2-Dichloroethane	ug/kg	58 U	55 U	53 U	66 U	76 U
1,2-Dichloropropane	ug/kg	58 U	55 U	53 U	66 U	76 U
1,3-Dichlorobenzene	ug/kg	120 U	110 U	110 U	130 U	150 U
1,4-Dichlorobenzene	ug/kg	120 U	110 U	110 U	130 U	150 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	860 U	820 U	790 U	990 U	1100 U
2-Hexanone	ug/kg	2900 U	2700 U	2600 U	3300 U	3800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2900 U	2700 U	2600 U	3300 U	3800 U
Acetone	ug/kg	860 U	820 U	790 U	990 U	1100 U
Benzene	ug/kg	58 U	55 U	53 U	66 U	76 U
Bromodichloromethane	ug/kg	120 U	110 U	110 U	130 U	150 U
Bromoform	ug/kg	120 U	110 U	110 U	130 U	150 U
Bromomethane (Methyl bromide)	ug/kg	290 U	270 U	260 U	330 U	380 U
Carbon disulfide	ug/kg	290 U	270 U	260 U	330 U	380 U
Carbon tetrachloride	ug/kg	58 U	55 U	53 U	66 U	76 U
Chlorobenzene	ug/kg	58 U	55 U	53 U	66 U	76 U
Chloroethane	ug/kg	290 U	270 U	260 U	330 U	380 U
Chloroform (Trichloromethane)	ug/kg	58 U	55 U	53 U	66 U	76 U
Chloromethane (Methyl chloride)	ug/kg	290 U	270 U	260 U	330 U	27 J
cis-1,2-Dichloroethene	ug/kg	58 U	55 U	53 U	66 U	76 U
cis-1,3-Dichloropropene	ug/kg	58 U	55 U	53 U	66 U	76 U
Cyclohexane	ug/kg	1400 U	1300 U	1300 U	1600 U	1800 U
Dibromochloromethane	ug/kg	58 U	55 U	53 U	66 U	76 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	110 U	110 U	130 U	150 U
Ethylbenzene	ug/kg	58 U	55 U	53 U	66 U	76 U
Isopropyl benzene	ug/kg	290 U	270 U	260 U	330 U	380 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB3-04**	**SB3-04**	**SB3-04**	**SB4-04**	**SB4-04**
Sample Identification		**S-17360-071404-DCR-086**	**S-17360-071404-DCR-087**	**S-17360-071404-DCR-088**	**S-17360-071504-DCR-111**	**S-17360-071504-DCR-112**
Sample Date		**7/14/2004**	**7/14/2004**	**7/14/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(16-18) ft BGS**	**(18-20) ft BGS**	**(20-22) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1400 U	1300 U	1300 U	1600 U	1800 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1400 U	1300 U	1300 U	1600 U	1800 U
Methyl tert butyl ether (MTBE)	ug/kg	290 U	270 U	260 U	330 U	380 U
Methylene chloride	ug/kg	290 U	270 U	260 U	330 U	380 U
Styrene	ug/kg	58 U	55 U	53 U	66 U	76 U
Tetrachloroethene	ug/kg	58 U	55 U	53 U	66 U	76 U
Toluene	ug/kg	120 U	110 U	110 U	130 U	150 U
trans-1,2-Dichloroethene	ug/kg	58 U	55 U	53 U	66 U	76 U
trans-1,3-Dichloropropene	ug/kg	58 U	55 U	53 U	66 U	76 U
Trichloroethene	ug/kg	58 U	20 J	53 U	**190**[bc]	76 U
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	110 U	110 U	130 U	150 U
Trifluorotrichloroethane (Freon 113)	ug/kg	290 U	270 U	260 U	330 U	380 U
Vinyl chloride	ug/kg	120 U	110 U	110 U	130 U	150 U
Xylenes (total)	ug/kg	170 U	160 U	160 U	200 U	230 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB4-04	SB4-04	SB4-04	SB4-04	SB4-04
Sample Identification		S-17360-071504-DCR-113	S-17360-071504-DCR-114	S-17360-071504-DCR-115	S-17360-071504-DCR-116	S-17360-071504-DCR-117
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	82 U	59 U	59 U	66 U	57 U
1,1,2,2-Tetrachloroethane	ug/kg	160 U	120 U	120 U	130 U	110 U
1,1,2-Trichloroethane	ug/kg	82 U	59 U	59 U	66 U	57 U
1,1-Dichloroethane	ug/kg	82 U	59 U	59 U	66 U	57 U
1,1-Dichloroethene	ug/kg	82 U	59 U	59 U	66 U	57 U
1,2,4-Trichlorobenzene	ug/kg	410 U	300 U	290 U	330 U	280 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	410 U	300 U	290 U	330 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	410 U	300 U	290 U	330 U	280 U
1,2-Dichlorobenzene	ug/kg	160 U	120 U	120 U	130 U	110 U
1,2-Dichloroethane	ug/kg	82 U	59 U	59 U	66 U	57 U
1,2-Dichloropropane	ug/kg	82 U	59 U	59 U	66 U	57 U
1,3-Dichlorobenzene	ug/kg	160 U	120 U	120 U	130 U	110 U
1,4-Dichlorobenzene	ug/kg	160 U	120 U	120 U	130 U	110 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1200 U	890 U	880 U	980 U	850 U
2-Hexanone	ug/kg	4100 U	3000 U	2900 U	3300 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	4100 U	3000 U	2900 U	3300 U	2800 U
Acetone	ug/kg	1200 U	890 U	880 U	980 U	850 U
Benzene	ug/kg	82 U	59 U	59 U	66 U	57 U
Bromodichloromethane	ug/kg	160 U	120 U	120 U	130 U	110 U
Bromoform	ug/kg	160 U	120 U	120 U	130 U	110 U
Bromomethane (Methyl bromide)	ug/kg	410 U	300 U	290 U	330 U	280 U
Carbon disulfide	ug/kg	410 U	300 U	290 U	330 U	280 U
Carbon tetrachloride	ug/kg	82 U	59 U	59 U	66 U	57 U
Chlorobenzene	ug/kg	82 U	59 U	59 U	66 U	57 U
Chloroethane	ug/kg	410 U	300 U	290 U	330 U	280 U
Chloroform (Trichloromethane)	ug/kg	82 U	59 U	59 U	66 U	57 U
Chloromethane (Methyl chloride)	ug/kg	410 U	300 U	290 U	21 J	18 J
cis-1,2-Dichloroethene	ug/kg	82 U	59 U	59 U	66 U	57 U
cis-1,3-Dichloropropene	ug/kg	82 U	59 U	59 U	66 U	57 U
Cyclohexane	ug/kg	2000 U	1400 U	1400 U	1600 U	1400 U
Dibromochloromethane	ug/kg	82 U	59 U	59 U	66 U	57 U
Dichlorodifluoromethane (CFC-12)	ug/kg	160 U	120 U	120 U	130 U	110 U
Ethylbenzene	ug/kg	82 U	59 U	59 U	66 U	57 U
Isopropyl benzene	ug/kg	410 U	300 U	290 U	330 U	280 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB4-04**	**SB4-04**	**SB4-04**	**SB4-04**	**SB4-04**
Sample Identification		**S-17360-071504-DCR-113**	**S-17360-071504-DCR-114**	**S-17360-071504-DCR-115**	**S-17360-071504-DCR-116**	**S-17360-071504-DCR-117**
Sample Date		**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	2000 U	1400 U	1400 U	1600 U	1400 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	2000 U	1400 U	1400 U	1600 U	1400 U
Methyl tert butyl ether (MTBE)	ug/kg	410 U	300 U	290 U	330 U	280 U
Methylene chloride	ug/kg	410 U	300 U	290 U	330 U	280 U
Styrene	ug/kg	82 U	59 U	59 U	66 U	57 U
Tetrachloroethene	ug/kg	82 U	59 U	59 U	66 U	57 U
Toluene	ug/kg	160 U	120 U	120 U	130 U	110 U
trans-1,2-Dichloroethene	ug/kg	82 U	59 U	59 U	66 U	57 U
trans-1,3-Dichloropropene	ug/kg	82 U	59 U	59 U	66 U	57 U
Trichloroethene	ug/kg	82 U	59 U	59 U	66 U	57 U
Trichlorofluoromethane (CFC-11)	ug/kg	160 U	120 U	120 U	130 U	110 U
Trifluorotrichloroethane (Freon 113)	ug/kg	410 U	300 U	290 U	330 U	280 U
Vinyl chloride	ug/kg	160 U	120 U	120 U	130 U	110 U
Xylenes (total)	ug/kg	250 U	180 U	180 U	200 U	170 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB4-04	SB4-04	SB4-04	SB4-04	SB5-04
Sample Identification		S-17360-071504-DCR-118	S-17360-071504-DCR-119	S-17360-071504-DCR-120	S-17360-071504-DCR-121	S-17360-071504-DCR-100
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(20-22) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	61 U	59 U	53 U	53 U	200 U
1,1,2,2-Tetrachloroethane	ug/kg	120 U	120 U	110 U	110 U	400 U
1,1,2-Trichloroethane	ug/kg	61 U	59 U	53 U	53 U	200 U
1,1-Dichloroethane	ug/kg	61 U	59 U	53 U	53 U	200 U
1,1-Dichloroethene	ug/kg	61 U	59 U	53 U	53 U	200 U
1,2,4-Trichlorobenzene	ug/kg	310 U	290 U	270 U	270 U	1000 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	310 U	290 U	270 U	270 U	1000 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	310 U	290 U	270 U	270 U	1000 U
1,2-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	400 U
1,2-Dichloroethane	ug/kg	61 U	59 U	53 U	53 U	200 U
1,2-Dichloropropane	ug/kg	61 U	59 U	53 U	53 U	200 U
1,3-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	400 U
1,4-Dichlorobenzene	ug/kg	120 U	120 U	110 U	110 U	400 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	920 U	880 U	800 U	800 U	3000 U
2-Hexanone	ug/kg	3100 U	2900 U	2700 U	2700 U	10000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3100 U	2900 U	2700 U	2700 U	10000 U
Acetone	ug/kg	920 U	880 U	800 U	800 U	3000 U
Benzene	ug/kg	61 U	59 U	53 U	53 U	33 J
Bromodichloromethane	ug/kg	120 U	120 U	110 U	110 U	400 U
Bromoform	ug/kg	120 U	120 U	110 U	110 U	400 U
Bromomethane (Methyl bromide)	ug/kg	310 U	290 U	270 U	270 U	1000 U
Carbon disulfide	ug/kg	310 U	290 U	270 U	270 U	1000 U
Carbon tetrachloride	ug/kg	61 U	59 U	53 U	53 U	200 U
Chlorobenzene	ug/kg	61 U	59 U	53 U	53 U	200 U
Chloroethane	ug/kg	310 U	290 U	270 U	270 U	1000 U
Chloroform (Trichloromethane)	ug/kg	61 U	59 U	53 U	53 U	200 U
Chloromethane (Methyl chloride)	ug/kg	310 U	290 U	270 U	23 J	1000 U
cis-1,2-Dichloroethene	ug/kg	61 U	59 U	53 U	53 U	200 U
cis-1,3-Dichloropropene	ug/kg	61 U	59 U	53 U	53 U	200 U
Cyclohexane	ug/kg	1500 U	1400 U	1300 U	1300 U	31 J
Dibromochloromethane	ug/kg	61 U	59 U	53 U	53 U	200 U
Dichlorodifluoromethane (CFC-12)	ug/kg	120 U	120 U	110 U	110 U	400 U
Ethylbenzene	ug/kg	61 U	59 U	53 U	53 U	200 U
Isopropyl benzene	ug/kg	310 U	290 U	270 U	270 U	25 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB4-04	SB4-04	SB4-04	SB4-04	SB5-04
Sample Identification		S-17360-071504-DCR-118	S-17360-071504-DCR-119	S-17360-071504-DCR-120	S-17360-071504-DCR-121	S-17360-071504-DCR-100
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(20-22) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Methyl acetate	ug/kg	1500 U	1400 U	1300 U	1300 U	4800 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1500 U	1400 U	1300 U	1300 U	200 J
Methyl tert butyl ether (MTBE)	ug/kg	310 U	290 U	270 U	270 U	1000 U
Methylene chloride	ug/kg	310 U	290 U	270 U	270 U	1000 U
Styrene	ug/kg	61 U	59 U	53 U	53 U	200 U
Tetrachloroethene	ug/kg	61 U	59 U	53 U	53 U	200 U
Toluene	ug/kg	120 U	120 U	110 U	110 U	140 J
trans-1,2-Dichloroethene	ug/kg	61 U	59 U	53 U	53 U	200 U
trans-1,3-Dichloropropene	ug/kg	61 U	59 U	53 U	53 U	200 U
Trichloroethene	ug/kg	41 J	59 U	53 U	18 J	**5700**[bcdef]
Trichlorofluoromethane (CFC-11)	ug/kg	120 U	120 U	110 U	110 U	400 U
Trifluorotrichloroethane (Freon 113)	ug/kg	310 U	290 U	270 U	270 U	1000 U
Vinyl chloride	ug/kg	120 U	120 U	110 U	110 U	400 U
Xylenes (total)	ug/kg	180 U	180 U	160 U	160 U	200 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB5-04	SB5-04	SB5-04	SB5-04	SB5-04
Sample Identification		S-17360-071504-DCR-101	S-17360-071504-DCR-102	S-17360-071504-DCR-103	S-17360-071504-DCR-104	S-17360-071504-DCR-105
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	110 U	66 U	61 U	60 U	56 U
1,1,2,2-Tetrachloroethane	ug/kg	230 U	130 U	120 U	120 U	110 U
1,1,2-Trichloroethane	ug/kg	110 U	66 U	61 U	60 U	56 U
1,1-Dichloroethane	ug/kg	110 U	66 U	61 U	60 U	56 U
1,1-Dichloroethene	ug/kg	110 U	66 U	61 U	60 U	56 U
1,2,4-Trichlorobenzene	ug/kg	570 U	330 U	300 U	300 U	280 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	570 U	330 U	300 U	300 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	570 U	330 U	300 U	300 U	280 U
1,2-Dichlorobenzene	ug/kg	230 U	130 U	120 U	120 U	110 U
1,2-Dichloroethane	ug/kg	110 U	66 U	61 U	60 U	56 U
1,2-Dichloropropane	ug/kg	110 U	66 U	61 U	60 U	56 U
1,3-Dichlorobenzene	ug/kg	230 U	130 U	120 U	120 U	110 U
1,4-Dichlorobenzene	ug/kg	230 U	130 U	120 U	120 U	110 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1700 U	990 U	59 J	900 U	830 U
2-Hexanone	ug/kg	5700 U	3300 U	3000 U	3000 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	5700 U	3300 U	3000 U	3000 U	2800 U
Acetone	ug/kg	1700 U	990 U	910 U	900 U	830 U
Benzene	ug/kg	110 U	66 U	61 U	60 U	56 U
Bromodichloromethane	ug/kg	230 U	130 U	120 U	120 U	110 U
Bromoform	ug/kg	230 U	130 U	120 U	120 U	110 U
Bromomethane (Methyl bromide)	ug/kg	570 U	330 U	300 U	300 U	280 U
Carbon disulfide	ug/kg	570 U	330 U	300 U	300 U	280 U
Carbon tetrachloride	ug/kg	110 U	66 U	61 U	60 U	56 U
Chlorobenzene	ug/kg	110 U	66 U	61 U	60 U	56 U
Chloroethane	ug/kg	570 U	330 U	300 U	300 U	280 U
Chloroform (Trichloromethane)	ug/kg	110 U	66 U	61 U	60 U	56 U
Chloromethane (Methyl chloride)	ug/kg	570 U	330 U	300 U	300 U	280 U
cis-1,2-Dichloroethene	ug/kg	110 U	66 U	61 U	60 U	56 U
cis-1,3-Dichloropropene	ug/kg	110 U	66 U	61 U	60 U	56 U
Cyclohexane	ug/kg	2700 U	1600 U	1500 U	1400 U	1300 U
Dibromochloromethane	ug/kg	110 U	66 U	61 U	60 U	56 U
Dichlorodifluoromethane (CFC-12)	ug/kg	230 U	130 U	120 U	120 U	110 U
Ethylbenzene	ug/kg	110 U	66 U	61 U	60 U	56 U
Isopropyl benzene	ug/kg	570 U	330 U	300 U	300 U	280 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB5-04**	**SB5-04**	**SB5-04**	**SB5-04**	**SB5-04**
Sample Identification		**S-17360-071504-DCR-101**	**S-17360-071504-DCR-102**	**S-17360-071504-DCR-103**	**S-17360-071504-DCR-104**	**S-17360-071504-DCR-105**
Sample Date		**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	2700 U	1600 U	1500 U	1400 U	1300 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	2700 U	1600 U	1500 U	1400 U	1300 U
Methyl tert butyl ether (MTBE)	ug/kg	570 U	330 U	300 U	300 U	280 U
Methylene chloride	ug/kg	570 U	330 U	300 U	300 U	280 U
Styrene	ug/kg	110 U	66 U	61 U	60 U	56 U
Tetrachloroethene	ug/kg	110 U	66 U	61 U	60 U	56 U
Toluene	ug/kg	230 U	130 U	120 U	120 U	110 U
trans-1,2-Dichloroethene	ug/kg	110 U	66 U	61 U	60 U	56 U
trans-1,3-Dichloropropene	ug/kg	110 U	66 U	61 U	60 U	56 U
Trichloroethene	ug/kg	110 U	66 U	61 U	60 U	25 J
Trichlorofluoromethane (CFC-11)	ug/kg	230 U	130 U	120 U	120 U	110 U
Trifluorotrichloroethane (Freon 113)	ug/kg	570 U	330 U	300 U	300 U	280 U
Vinyl chloride	ug/kg	230 U	130 U	120 U	120 U	110 U
Xylenes (total)	ug/kg	340 U	200 U	180 U	180 U	170 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB5-04	SB5-04	SB5-04	SB5-04	SB5-04
Sample Identification		S-17360-071504-DCR-106	S-17360-071504-DCR-107	S-17360-071504-DCR-108	S-17360-071504-DCR-109	S-17360-071504-DCR-110
Sample Date		7/15/2004	7/15/2004	7/15/2004	7/15/2004	7/15/2004
Sample Type						
Sample Depth		(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	50 U	56 U	55 U	62 U	71 U
1,1,2,2-Tetrachloroethane	ug/kg	99 U	110 U	110 U	120 U	140 U
1,1,2-Trichloroethane	ug/kg	50 U	56 U	55 U	62 U	71 U
1,1-Dichloroethane	ug/kg	50 U	56 U	55 U	62 U	71 U
1,1-Dichloroethene	ug/kg	50 U	56 U	55 U	62 U	71 U
1,2,4-Trichlorobenzene	ug/kg	250 U	280 U	270 U	310 U	350 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	250 U	280 U	270 U	310 U	350 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	250 U	280 U	270 U	310 U	350 U
1,2-Dichlorobenzene	ug/kg	99 U	110 U	110 U	120 U	140 U
1,2-Dichloroethane	ug/kg	50 U	56 U	55 U	62 U	71 U
1,2-Dichloropropane	ug/kg	50 U	56 U	55 U	62 U	71 U
1,3-Dichlorobenzene	ug/kg	99 U	110 U	110 U	120 U	140 U
1,4-Dichlorobenzene	ug/kg	99 U	110 U	110 U	120 U	140 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	750 U	840 U	820 U	930 U	1100 U
2-Hexanone	ug/kg	2500 U	2800 U	2700 U	3100 U	3500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2500 U	2800 U	2700 U	3100 U	3500 U
Acetone	ug/kg	750 U	840 U	820 U	930 U	1100 U
Benzene	ug/kg	50 U	56 U	55 U	62 U	71 U
Bromodichloromethane	ug/kg	99 U	110 U	110 U	120 U	140 U
Bromoform	ug/kg	99 U	110 U	110 U	120 U	140 U
Bromomethane (Methyl bromide)	ug/kg	250 U	280 U	270 U	310 U	350 U
Carbon disulfide	ug/kg	250 U	280 U	270 U	310 U	350 U
Carbon tetrachloride	ug/kg	50 U	56 U	55 U	62 U	71 U
Chlorobenzene	ug/kg	50 U	56 U	55 U	62 U	71 U
Chloroethane	ug/kg	250 U	280 U	270 U	310 U	350 U
Chloroform (Trichloromethane)	ug/kg	50 U	56 U	55 U	62 U	71 U
Chloromethane (Methyl chloride)	ug/kg	250 U	280 U	270 U	310 U	350 U
cis-1,2-Dichloroethene	ug/kg	50 U	56 U	55 U	62 U	71 U
cis-1,3-Dichloropropene	ug/kg	50 U	56 U	55 U	62 U	71 U
Cyclohexane	ug/kg	1200 U	1300 U	1300 U	1500 U	1700 U
Dibromochloromethane	ug/kg	50 U	56 U	55 U	62 U	71 U
Dichlorodifluoromethane (CFC-12)	ug/kg	99 U	110 U	110 U	120 U	140 U
Ethylbenzene	ug/kg	50 U	56 U	55 U	62 U	71 U
Isopropyl benzene	ug/kg	250 U	280 U	270 U	310 U	350 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB5-04**	**SB5-04**	**SB5-04**	**SB5-04**	**SB5-04**
Sample Identification		**S-17360-071504-DCR-106**	**S-17360-071504-DCR-107**	**S-17360-071504-DCR-108**	**S-17360-071504-DCR-109**	**S-17360-071504-DCR-110**
Sample Date		**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**	**7/15/2004**
Sample Type						
Sample Depth		**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1200 U	1300 U	1300 U	1500 U	1700 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1200 U	1300 U	1300 U	1500 U	1700 U
Methyl tert butyl ether (MTBE)	ug/kg	250 U	280 U	270 U	310 U	350 U
Methylene chloride	ug/kg	250 U	280 U	270 U	310 U	350 U
Styrene	ug/kg	50 U	56 U	55 U	62 U	71 U
Tetrachloroethene	ug/kg	50 U	56 U	55 U	62 U	71 U
Toluene	ug/kg	99 U	110 U	110 U	120 U	140 U
trans-1,2-Dichloroethene	ug/kg	50 U	56 U	55 U	62 U	71 U
trans-1,3-Dichloropropene	ug/kg	50 U	56 U	55 U	62 U	71 U
Trichloroethene	ug/kg	50 U	20 J	25 J	62 U	71 U
Trichlorofluoromethane (CFC-11)	ug/kg	99 U	110 U	110 U	120 U	140 U
Trifluorotrichloroethane (Freon 113)	ug/kg	250 U	280 U	270 U	310 U	350 U
Vinyl chloride	ug/kg	99 U	110 U	110 U	120 U	140 U
Xylenes (total)	ug/kg	150 U	170 U	160 U	190 U	210 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB6-05**	**SB6-05**	**SB6-05**	**SB6-05**
Sample Identification		**SO-17360-071105-DCR-419**	**SO-17360-071105-DCR-420**	**SO-17360-071105-DCR-421**	**SO-17360-071105-DCR-422**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	40 U	38 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	80 U	81 U	76 U	76 U
1,1,2-Trichloroethane	ug/kg	40 U	40 U	38 U	38 U
1,1-Dichloroethane	ug/kg	40 U	40 U	38 U	38 U
1,1-Dichloroethene	ug/kg	40 U	40 U	38 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	200 U	190 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	200 U	190 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	200 U	190 U	190 U
1,2-Dichlorobenzene	ug/kg	80 U	81 U	76 U	76 U
1,2-Dichloroethane	ug/kg	40 U	40 U	38 U	38 U
1,2-Dichloropropane	ug/kg	40 U	40 U	38 U	38 U
1,3-Dichlorobenzene	ug/kg	80 U	81 U	76 U	76 U
1,4-Dichlorobenzene	ug/kg	80 U	81 U	76 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	610 U	570 U	570 U
2-Hexanone	ug/kg	2000 U	2000 U	1900 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2000 U	1900 U	1900 U
Acetone	ug/kg	600 U	610 U	570 U	570 U
Benzene	ug/kg	40 U	40 U	38 U	38 U
Bromodichloromethane	ug/kg	80 UJ	81 UJ	76 UJ	76 UJ
Bromoform	ug/kg	80 U	81 U	76 U	76 U
Bromomethane (Methyl bromide)	ug/kg	200 U	200 U	190 U	190 U
Carbon disulfide	ug/kg	200 U	200 U	190 U	190 U
Carbon tetrachloride	ug/kg	40 U	40 U	38 U	38 U
Chlorobenzene	ug/kg	40 U	40 U	38 U	38 U
Chloroethane	ug/kg	200 U	200 U	190 U	190 U
Chloroform (Trichloromethane)	ug/kg	40 U	40 U	38 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	200 U	190 U	190 U
cis-1,2-Dichloroethene	ug/kg	40 U	40 U	38 U	38 U
cis-1,3-Dichloropropene	ug/kg	40 U	40 U	38 U	38 U
Cyclohexane	ug/kg	960 U	970 U	910 U	910 U
Dibromochloromethane	ug/kg	40 U	40 U	38 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	81 U	76 U	76 U
Ethylbenzene	ug/kg	40 U	40 U	38 U	38 U
Isopropyl benzene	ug/kg	200 U	200 U	190 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB6-05**	**SB6-05**	**SB6-05**	**SB6-05**
Sample Identification		**SO-17360-071105-DCR-419**	**SO-17360-071105-DCR-420**	**SO-17360-071105-DCR-421**	**SO-17360-071105-DCR-422**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	53 J	970 U	910 U	910 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	960 U	970 U	910 U	910 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	200 U	190 U	190 U
Methylene chloride	ug/kg	200 U	200 U	190 U	190 U
Styrene	ug/kg	40 U	40 U	38 U	38 U
Tetrachloroethene	ug/kg	40 U	40 U	38 U	38 U
Toluene	ug/kg	80 U	81 U	76 U	76 U
trans-1,2-Dichloroethene	ug/kg	40 U	40 U	38 U	38 U
trans-1,3-Dichloropropene	ug/kg	40 UJ	40 UJ	38 UJ	38 UJ
Trichloroethene	ug/kg	15 J	40 U	38 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	81 U	76 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	200 U	190 U	190 U
Vinyl chloride	ug/kg	80 U	81 U	76 U	76 U
Xylenes (total)	ug/kg	120 U	120 U	110 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB6-05	SB6-05	SB6-05	SB6-05
Sample Identification		SO-17360-071105-DCR-423	SO-17360-071105-DCR-429	SO-17360-071105-DCR-424	SO-17360-071105-DCR-425
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	40 U	48 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	75 U	79 U	96 U	76 U
1,1,2-Trichloroethane	ug/kg	38 U	40 U	48 U	38 U
1,1-Dichloroethane	ug/kg	38 U	40 U	48 U	38 U
1,1-Dichloroethene	ug/kg	38 U	40 U	48 U	38 U
1,2,4-Trichlorobenzene	ug/kg	190 U	200 U	240 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	200 U	240 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	200 U	240 U	190 U
1,2-Dichlorobenzene	ug/kg	75 U	79 U	96 U	76 U
1,2-Dichloroethane	ug/kg	38 U	40 U	48 U	38 U
1,2-Dichloropropane	ug/kg	38 U	40 U	48 U	38 U
1,3-Dichlorobenzene	ug/kg	75 U	79 U	96 U	76 U
1,4-Dichlorobenzene	ug/kg	75 U	79 U	96 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	560 U	590 U	720 U	570 U
2-Hexanone	ug/kg	1900 U	2000 U	2400 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	2000 U	2400 U	1900 U
Acetone	ug/kg	560 U	590 U	720 U	570 U
Benzene	ug/kg	38 U	40 U	48 U	38 U
Bromodichloromethane	ug/kg	75 UJ	79 U	96 UJ	76 UJ
Bromoform	ug/kg	75 U	79 U	96 U	76 U
Bromomethane (Methyl bromide)	ug/kg	190 U	200 U	240 U	190 U
Carbon disulfide	ug/kg	190 U	200 U	240 U	190 U
Carbon tetrachloride	ug/kg	38 U	40 U	48 U	38 U
Chlorobenzene	ug/kg	38 U	40 U	48 U	38 U
Chloroethane	ug/kg	190 U	200 U	240 U	190 U
Chloroform (Trichloromethane)	ug/kg	38 U	40 U	48 U	38 U
Chloromethane (Methyl chloride)	ug/kg	190 U	200 U	240 U	190 U
cis-1,2-Dichloroethene	ug/kg	38 U	40 U	48 U	38 U
cis-1,3-Dichloropropene	ug/kg	38 U	40 U	48 U	38 U
Cyclohexane	ug/kg	900 U	950 U	1200 U	910 U
Dibromochloromethane	ug/kg	38 U	40 U	48 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	75 U	79 U	96 U	76 U
Ethylbenzene	ug/kg	38 U	40 U	48 U	38 U
Isopropyl benzene	ug/kg	190 U	200 U	240 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB6-05**	**SB6-05**	**SB6-05**	**SB6-05**
Sample Identification		**SO-17360-071105-DCR-423**	**SO-17360-071105-DCR-429**	**SO-17360-071105-DCR-424**	**SO-17360-071105-DCR-425**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type			**Duplicate**		
Sample Depth		**(8-10) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	900 U	950 U	1200 U	910 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	900 U	950 U	1200 U	910 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	200 U	240 U	190 U
Methylene chloride	ug/kg	190 U	200 U	240 U	190 U
Styrene	ug/kg	38 U	40 U	48 U	38 U
Tetrachloroethene	ug/kg	38 U	40 U	48 U	38 U
Toluene	ug/kg	75 U	79 U	96 U	76 U
trans-1,2-Dichloroethene	ug/kg	38 U	40 U	48 U	38 U
trans-1,3-Dichloropropene	ug/kg	38 UJ	40 U	48 UJ	38 UJ
Trichloroethene	ug/kg	38 U	40 U	48 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	75 U	79 U	96 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	200 U	240 U	190 U
Vinyl chloride	ug/kg	75 U	79 U	96 U	76 U
Xylenes (total)	ug/kg	110 U	120 U	140 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB6-05	SB6-05	SB6-05	SB7-05
Sample Identification		SO-17360-071105-DCR-426	SO-17360-071105-DCR-427	SO-17360-071105-DCR-428	SO-17360-071105-DCR-450
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	53 U	40 U	42 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	110 U	80 U	84 U	80 U
1,1,2-Trichloroethane	ug/kg	53 U	40 U	42 U	40 U
1,1-Dichloroethane	ug/kg	53 U	40 U	42 U	40 U
1,1-Dichloroethene	ug/kg	53 U	40 U	42 U	40 U
1,2,4-Trichlorobenzene	ug/kg	260 U	200 U	210 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 U	200 U	210 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	260 U	200 U	210 U	200 U
1,2-Dichlorobenzene	ug/kg	110 U	80 U	84 U	80 U
1,2-Dichloroethane	ug/kg	53 U	40 U	42 U	40 U
1,2-Dichloropropane	ug/kg	53 U	40 U	42 U	40 U
1,3-Dichlorobenzene	ug/kg	110 U	80 U	84 U	80 U
1,4-Dichlorobenzene	ug/kg	110 U	80 U	84 U	80 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	790 U	600 U	630 U	600 U
2-Hexanone	ug/kg	2600 U	2000 U	2100 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2600 U	2000 U	2100 U	2000 U
Acetone	ug/kg	790 U	600 U	630 U	600 U
Benzene	ug/kg	53 U	40 U	42 U	40 U
Bromodichloromethane	ug/kg	110 UJ	80 UJ	84 U	80 UJ
Bromoform	ug/kg	110 U	80 U	84 U	80 U
Bromomethane (Methyl bromide)	ug/kg	260 U	200 U	210 U	200 U
Carbon disulfide	ug/kg	260 U	200 U	210 U	200 U
Carbon tetrachloride	ug/kg	53 U	40 U	42 U	40 U
Chlorobenzene	ug/kg	53 U	40 U	42 U	40 U
Chloroethane	ug/kg	260 U	200 U	210 U	200 U
Chloroform (Trichloromethane)	ug/kg	53 U	40 U	42 U	40 U
Chloromethane (Methyl chloride)	ug/kg	260 U	200 U	210 U	200 U
cis-1,2-Dichloroethene	ug/kg	53 U	40 U	42 U	40 U
cis-1,3-Dichloropropene	ug/kg	53 U	40 U	42 U	40 U
Cyclohexane	ug/kg	1300 U	960 U	1000 U	8.0 J
Dibromochloromethane	ug/kg	53 U	40 U	42 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	110 U	80 U	84 U	80 U
Ethylbenzene	ug/kg	53 U	16 J	42 U	40 U
Isopropyl benzene	ug/kg	260 U	200 U	210 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB6-05**	**SB6-05**	**SB6-05**	**SB7-05**
Sample Identification		**SO-17360-071105-DCR-426**	**SO-17360-071105-DCR-427**	**SO-17360-071105-DCR-428**	**SO-17360-071105-DCR-450**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1300 U	590 J	1000 U	960 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1300 U	960 U	1000 U	26 J
Methyl tert butyl ether (MTBE)	ug/kg	260 U	200 U	210 U	200 U
Methylene chloride	ug/kg	260 U	200 U	210 U	200 U
Styrene	ug/kg	53 U	40 U	42 U	40 U
Tetrachloroethene	ug/kg	53 U	40 U	42 U	40 U
Toluene	ug/kg	110 U	80 U	84 U	80 U
trans-1,2-Dichloroethene	ug/kg	53 U	40 U	42 U	40 U
trans-1,3-Dichloropropene	ug/kg	53 UJ	40 UJ	42 U	40 U
Trichloroethene	ug/kg	53 U	14 J	42 U	**1600**[bce]
Trichlorofluoromethane (CFC-11)	ug/kg	110 U	80 U	84 U	80 U
Trifluorotrichloroethane (Freon 113)	ug/kg	260 U	200 U	210 U	200 U
Vinyl chloride	ug/kg	110 U	80 U	84 U	80 U
Xylenes (total)	ug/kg	160 U	98 J	130 U	16 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB7-05	SB7-05	SB7-05	SB7-05
Sample Identification		SO-17360-071105-DCR-451	SO-17360-071105-DCR-452	SO-17360-071105-DCR-453	SO-17360-071105-DCR-454
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	74 U	39 U	37 U	39 U
1,1,2,2-Tetrachloroethane	ug/kg	150 U	78 U	74 U	78 U
1,1,2-Trichloroethane	ug/kg	74 U	39 U	37 U	39 U
1,1-Dichloroethane	ug/kg	74 U	39 U	37 U	39 U
1,1-Dichloroethene	ug/kg	74 U	39 U	37 U	39 U
1,2,4-Trichlorobenzene	ug/kg	370 U	190 U	180 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	370 U	190 U	180 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	370 U	190 U	180 U	190 U
1,2-Dichlorobenzene	ug/kg	150 U	78 U	74 U	78 U
1,2-Dichloroethane	ug/kg	74 U	39 U	37 U	39 U
1,2-Dichloropropane	ug/kg	74 U	39 U	37 U	39 U
1,3-Dichlorobenzene	ug/kg	150 U	78 U	74 U	78 U
1,4-Dichlorobenzene	ug/kg	150 U	78 U	74 U	78 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1100 U	580 U	550 U	580 U
2-Hexanone	ug/kg	3700 U	1900 U	1800 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3700 U	1900 U	1800 U	1900 U
Acetone	ug/kg	1100 U	580 U	550 U	580 U
Benzene	ug/kg	74 U	39 U	37 U	39 U
Bromodichloromethane	ug/kg	150 UJ	78 UJ	74 UJ	78 UJ
Bromoform	ug/kg	150 U	78 U	74 U	78 U
Bromomethane (Methyl bromide)	ug/kg	370 U	190 U	180 U	190 U
Carbon disulfide	ug/kg	370 U	190 U	180 U	190 U
Carbon tetrachloride	ug/kg	74 U	39 U	37 U	39 U
Chlorobenzene	ug/kg	74 U	39 U	37 U	39 U
Chloroethane	ug/kg	370 U	190 U	180 U	190 U
Chloroform (Trichloromethane)	ug/kg	74 U	39 U	37 U	39 U
Chloromethane (Methyl chloride)	ug/kg	370 U	190 U	180 U	190 U
cis-1,2-Dichloroethene	ug/kg	74 U	39 U	37 U	39 U
cis-1,3-Dichloropropene	ug/kg	74 U	39 U	37 U	39 U
Cyclohexane	ug/kg	1800 U	930 U	880 U	930 U
Dibromochloromethane	ug/kg	74 U	39 U	37 U	39 U
Dichlorodifluoromethane (CFC-12)	ug/kg	150 U	78 U	74 U	78 U
Ethylbenzene	ug/kg	74 U	39 U	37 U	39 U
Isopropyl benzene	ug/kg	370 U	190 U	180 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB7-05**	**SB7-05**	**SB7-05**	**SB7-05**
Sample Identification		**SO-17360-071105-DCR-451**	**SO-17360-071105-DCR-452**	**SO-17360-071105-DCR-453**	**SO-17360-071105-DCR-454**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1800 U	930 U	880 U	930 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	32 J	930 U	880 U	930 U
Methyl tert butyl ether (MTBE)	ug/kg	370 U	190 U	180 U	190 U
Methylene chloride	ug/kg	370 U	190 U	180 U	190 U
Styrene	ug/kg	74 U	39 U	37 U	39 U
Tetrachloroethene	ug/kg	74 U	39 U	37 U	39 U
Toluene	ug/kg	150 U	78 U	74 U	78 U
trans-1,2-Dichloroethene	ug/kg	74 U	39 U	37 U	39 U
trans-1,3-Dichloropropene	ug/kg	74 U	39 U	37 U	39 U
Trichloroethene	ug/kg	**2500**[bcef]	16 J	37 U	39 U
Trichlorofluoromethane (CFC-11)	ug/kg	150 U	78 U	74 U	78 U
Trifluorotrichloroethane (Freon 113)	ug/kg	370 U	190 U	180 U	190 U
Vinyl chloride	ug/kg	150 U	78 U	74 U	78 U
Xylenes (total)	ug/kg	220 U	120 U	110 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB7-05	SB7-05	SB7-05	SB7-05
Sample Identification		SO-17360-071105-DCR-455	SO-17360-071105-DCR-456	SO-17360-071105-DCR-457	SO-17360-071105-DCR-458
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	38 U	44 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	82 U	77 U	89 U	100 U
1,1,2-Trichloroethane	ug/kg	41 U	38 U	44 U	52 U
1,1-Dichloroethane	ug/kg	41 U	38 U	44 U	52 U
1,1-Dichloroethene	ug/kg	41 U	38 U	44 U	52 U
1,2,4-Trichlorobenzene	ug/kg	200 U	190 U	220 U	260 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	190 U	220 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	190 U	220 U	260 U
1,2-Dichlorobenzene	ug/kg	82 U	77 U	89 U	100 U
1,2-Dichloroethane	ug/kg	41 U	38 U	44 U	52 U
1,2-Dichloropropane	ug/kg	41 U	38 U	44 U	52 U
1,3-Dichlorobenzene	ug/kg	82 U	77 U	89 U	100 U
1,4-Dichlorobenzene	ug/kg	82 U	77 U	89 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	580 U	670 U	780 U
2-Hexanone	ug/kg	2000 U	1900 U	2200 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	1900 U	2200 U	2600 U
Acetone	ug/kg	610 U	580 U	670 U	780 U
Benzene	ug/kg	41 U	38 U	44 U	52 U
Bromodichloromethane	ug/kg	82 UJ	77 UJ	89 UJ	100 UJ
Bromoform	ug/kg	82 U	77 U	89 U	100 U
Bromomethane (Methyl bromide)	ug/kg	200 U	190 U	220 U	260 U
Carbon disulfide	ug/kg	200 U	190 U	220 U	260 U
Carbon tetrachloride	ug/kg	41 U	38 U	44 U	52 U
Chlorobenzene	ug/kg	41 U	38 U	44 U	52 U
Chloroethane	ug/kg	200 U	190 U	220 U	260 U
Chloroform (Trichloromethane)	ug/kg	41 U	38 U	44 U	52 U
Chloromethane (Methyl chloride)	ug/kg	200 U	190 U	220 U	260 U
cis-1,2-Dichloroethene	ug/kg	41 U	38 U	44 U	52 U
cis-1,3-Dichloropropene	ug/kg	41 U	38 U	44 U	52 U
Cyclohexane	ug/kg	980 U	920 U	1100 U	1200 U
Dibromochloromethane	ug/kg	41 U	38 U	44 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	82 U	77 U	89 U	100 U
Ethylbenzene	ug/kg	41 U	38 U	44 U	52 U
Isopropyl benzene	ug/kg	200 U	190 U	220 U	260 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB7-05**	**SB7-05**	**SB7-05**	**SB7-05**
Sample Identification		**SO-17360-071105-DCR-455**	**SO-17360-071105-DCR-456**	**SO-17360-071105-DCR-457**	**SO-17360-071105-DCR-458**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	980 U	920 U	190 J	140 J
VOCs (continued)					
Methyl cyclohexane	ug/kg	980 U	920 U	1100 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	190 U	220 U	260 U
Methylene chloride	ug/kg	200 U	190 U	220 U	260 U
Styrene	ug/kg	41 U	38 U	44 U	52 U
Tetrachloroethene	ug/kg	41 U	38 U	44 U	52 U
Toluene	ug/kg	82 U	77 U	89 U	100 U
trans-1,2-Dichloroethene	ug/kg	41 U	38 U	44 U	52 U
trans-1,3-Dichloropropene	ug/kg	41 U	38 U	44 U	52 U
Trichloroethene	ug/kg	41 U	38 U	**290**[bc]	**380**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	82 U	77 U	89 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	190 U	220 U	260 U
Vinyl chloride	ug/kg	82 U	77 U	89 U	100 U
Xylenes (total)	ug/kg	120 U	120 U	130 U	160 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB7-05	SB8-05	SB8-05	SB8-05
Sample Identification		SO-17360-071105-DCR-459	SO-17360-071205-DCR-471	SO-17360-071205-DCR-472	SO-17360-071205-DCR-473
Sample Date		7/11/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	1300 U	40 U	39 U
1,1,2,2-Tetrachloroethane	ug/kg	81 U	2700 U	80 U	78 U
1,1,2-Trichloroethane	ug/kg	40 U	1300 U	40 U	39 U
1,1-Dichloroethane	ug/kg	40 U	1300 U	40 U	39 U
1,1-Dichloroethene	ug/kg	40 U	1300 U	40 U	39 U
1,2,4-Trichlorobenzene	ug/kg	200 U	6700 U	200 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	6700 U	200 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	6700 U	200 U	200 U
1,2-Dichlorobenzene	ug/kg	81 U	2700 U	80 U	78 U
1,2-Dichloroethane	ug/kg	40 U	1300 U	40 U	39 U
1,2-Dichloropropane	ug/kg	40 U	1300 U	40 U	39 U
1,3-Dichlorobenzene	ug/kg	81 U	2700 U	80 U	78 U
1,4-Dichlorobenzene	ug/kg	81 U	2700 U	80 U	78 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	20000 U	600 U	590 U
2-Hexanone	ug/kg	2000 U	67000 U	2000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	67000 U	2000 U	2000 U
Acetone	ug/kg	610 U	20000 U	600 U	590 U
Benzene	ug/kg	40 U	1300 U	40 U	39 U
Bromodichloromethane	ug/kg	81 UJ	2700 UJ	80 UJ	78 UJ
Bromoform	ug/kg	81 U	2700 U	80 U	78 U
Bromomethane (Methyl bromide)	ug/kg	200 U	6700 U	200 U	200 U
Carbon disulfide	ug/kg	200 U	6700 U	200 U	200 U
Carbon tetrachloride	ug/kg	40 U	1300 U	40 U	39 U
Chlorobenzene	ug/kg	40 U	1300 U	40 U	39 U
Chloroethane	ug/kg	200 U	6700 U	200 U	200 U
Chloroform (Trichloromethane)	ug/kg	40 U	1300 U	40 U	39 U
Chloromethane (Methyl chloride)	ug/kg	200 U	6700 U	200 U	200 U
cis-1,2-Dichloroethene	ug/kg	40 U	1300 U	40 U	39 U
cis-1,3-Dichloropropene	ug/kg	40 U	1300 UJ	40 UJ	39 UJ
Cyclohexane	ug/kg	970 U	32000 U	960 U	940 U
Dibromochloromethane	ug/kg	40 U	1300 U	40 U	39 U
Dichlorodifluoromethane (CFC-12)	ug/kg	81 U	2700 U	80 U	78 U
Ethylbenzene	ug/kg	40 U	1300 U	40 U	39 U
Isopropyl benzene	ug/kg	200 U	6700 U	200 U	200 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB7-05**	**SB8-05**	**SB8-05**	**SB8-05**
Sample Identification		**SO-17360-071105-DCR-459**	**SO-17360-071205-DCR-471**	**SO-17360-071205-DCR-472**	**SO-17360-071205-DCR-473**
Sample Date		**7/11/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	970 U	32000 U	960 U	940 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	970 U	570 J	960 U	940 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	6700 U	200 U	200 U
Methylene chloride	ug/kg	200 U	6700 U	200 U	200 U
Styrene	ug/kg	40 U	1300 U	40 U	39 U
Tetrachloroethene	ug/kg	40 U	1300 U	40 U	39 U
Toluene	ug/kg	81 U	2700 U	80 U	78 U
trans-1,2-Dichloroethene	ug/kg	40 U	1300 U	40 U	39 U
trans-1,3-Dichloropropene	ug/kg	40 U	1300 UJ	40 UJ	39 UJ
Trichloroethene	ug/kg	45	**46000**[bcdefghij]	**1500**[bce]	27 J
Trichlorofluoromethane (CFC-11)	ug/kg	81 U	2700 U	80 U	78 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	6700 U	200 U	200 U
Vinyl chloride	ug/kg	81 U	2700 U	80 U	78 U
Xylenes (total)	ug/kg	120 U	4000 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB8-05	SB8-05	SB8-05	SB8-05
Sample Identification		SO-17360-071205-DCR-474	SO-17360-071205-DCR-475	SO-17360-071205-DCR-476	SO-17360-071205-DCR-477
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	40 U	150 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	80 U	300 U	92 U
1,1,2-Trichloroethane	ug/kg	39 U	40 U	150 U	46 U
1,1-Dichloroethane	ug/kg	39 U	40 U	150 U	46 U
1,1-Dichloroethene	ug/kg	39 U	40 U	150 U	46 U
1,2,4-Trichlorobenzene	ug/kg	190 U	200 U	750 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	200 U	750 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	200 U	750 U	230 U
1,2-Dichlorobenzene	ug/kg	78 U	80 U	300 U	92 U
1,2-Dichloroethane	ug/kg	39 U	40 U	150 U	46 U
1,2-Dichloropropane	ug/kg	39 U	40 U	150 U	46 U
1,3-Dichlorobenzene	ug/kg	78 U	80 U	300 U	92 U
1,4-Dichlorobenzene	ug/kg	78 U	80 U	300 U	92 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	580 U	600 U	2200 U	690 U
2-Hexanone	ug/kg	1900 U	2000 U	7500 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	2000 U	7500 U	2300 U
Acetone	ug/kg	580 U	600 U	2200 U	690 UJ
Benzene	ug/kg	39 U	40 U	150 U	46 U
Bromodichloromethane	ug/kg	78 UJ	80 UJ	300 UJ	92 UJ
Bromoform	ug/kg	78 U	80 U	300 U	92 U
Bromomethane (Methyl bromide)	ug/kg	190 U	200 U	750 U	230 U
Carbon disulfide	ug/kg	190 U	200 U	750 U	230 U
Carbon tetrachloride	ug/kg	39 U	40 U	150 U	46 U
Chlorobenzene	ug/kg	39 U	40 U	150 U	46 U
Chloroethane	ug/kg	190 U	200 U	750 U	230 U
Chloroform (Trichloromethane)	ug/kg	39 U	40 U	150 U	46 U
Chloromethane (Methyl chloride)	ug/kg	190 U	200 U	750 U	230 U
cis-1,2-Dichloroethene	ug/kg	39 U	40 U	150 U	46 U
cis-1,3-Dichloropropene	ug/kg	39 UJ	40 UJ	150 UJ	46 UJ
Cyclohexane	ug/kg	930 U	960 U	3600 U	1100 U
Dibromochloromethane	ug/kg	39 U	40 U	150 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	80 U	300 U	92 U
Ethylbenzene	ug/kg	39 U	40 U	150 U	46 U
Isopropyl benzene	ug/kg	190 U	200 U	750 U	230 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB8-05**	**SB8-05**	**SB8-05**	**SB8-05**
Sample Identification		**SO-17360-071205-DCR-474**	**SO-17360-071205-DCR-475**	**SO-17360-071205-DCR-476**	**SO-17360-071205-DCR-477**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	930 U	960 U	400 J	1100 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	930 U	960 U	3600 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	200 U	750 U	230 U
Methylene chloride	ug/kg	190 U	200 U	750 U	230 U
Styrene	ug/kg	39 U	40 U	150 U	46 U
Tetrachloroethene	ug/kg	39 U	40 U	150 U	46 U
Toluene	ug/kg	78 U	80 U	300 U	92 U
trans-1,2-Dichloroethene	ug/kg	39 U	40 U	150 U	46 U
trans-1,3-Dichloropropene	ug/kg	39 UJ	40 UJ	150 UJ	46 UJ
Trichloroethene	ug/kg	16 J	12 J	**5900**[bcdef]	100 J
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	80 U	300 U	92 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	200 U	750 U	230 U
Vinyl chloride	ug/kg	78 U	80 U	300 U	92 U
Xylenes (total)	ug/kg	120 U	120 U	450 U	140 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB8-05	SB8-05	SB8-05	SB9-05
Sample Identification		SO-17360-071205-DCR-478	SO-17360-071205-DCR-479	SO-17360-071205-DCR-480	SO-17360-071105-DCR-430
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/11/2005
Sample Type					
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	48 U	37 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	80 U	95 U	74 U	76 U
1,1,2-Trichloroethane	ug/kg	40 U	48 U	37 U	38 U
1,1-Dichloroethane	ug/kg	40 U	48 U	37 U	38 U
1,1-Dichloroethene	ug/kg	40 U	48 U	37 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	240 U	180 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	240 U	180 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	240 U	180 U	190 U
1,2-Dichlorobenzene	ug/kg	80 U	95 U	74 U	76 U
1,2-Dichloroethane	ug/kg	40 U	48 U	37 U	38 U
1,2-Dichloropropane	ug/kg	40 U	48 U	37 U	38 U
1,3-Dichlorobenzene	ug/kg	80 U	95 U	74 U	76 U
1,4-Dichlorobenzene	ug/kg	80 U	95 U	74 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	710 U	550 U	570 U
2-Hexanone	ug/kg	2000 U	2400 U	1800 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2400 U	1800 U	1900 U
Acetone	ug/kg	600 U	710 U	550 U	570 U
Benzene	ug/kg	40 U	48 U	37 U	38 U
Bromodichloromethane	ug/kg	80 UJ	95 UJ	74 UJ	76 U
Bromoform	ug/kg	80 U	95 U	74 U	76 U
Bromomethane (Methyl bromide)	ug/kg	200 U	240 U	180 U	190 U
Carbon disulfide	ug/kg	200 U	240 U	180 U	190 U
Carbon tetrachloride	ug/kg	40 U	48 U	37 U	38 U
Chlorobenzene	ug/kg	40 U	48 U	37 U	38 U
Chloroethane	ug/kg	200 U	240 U	180 U	190 U
Chloroform (Trichloromethane)	ug/kg	40 U	48 U	37 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	240 U	180 U	190 U
cis-1,2-Dichloroethene	ug/kg	40 U	48 U	37 U	38 U
cis-1,3-Dichloropropene	ug/kg	40 UJ	48 UJ	37 UJ	38 U
Cyclohexane	ug/kg	960 U	1100 U	880 U	910 U
Dibromochloromethane	ug/kg	40 U	48 U	37 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	95 U	74 U	76 U
Ethylbenzene	ug/kg	40 U	48 U	37 U	38 U
Isopropyl benzene	ug/kg	200 U	240 U	180 U	190 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB8-05**	**SB8-05**	**SB8-05**	**SB9-05**
Sample Identification		**SO-17360-071205-DCR-478**	**SO-17360-071205-DCR-479**	**SO-17360-071205-DCR-480**	**SO-17360-071105-DCR-430**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	960 U	1100 U	880 U	910 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	960 U	1100 U	880 U	910 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	240 U	180 U	190 U
Methylene chloride	ug/kg	200 U	240 U	180 U	190 U
Styrene	ug/kg	40 U	48 U	37 U	38 U
Tetrachloroethene	ug/kg	40 U	48 U	37 U	38 U
Toluene	ug/kg	80 U	95 U	74 U	76 U
trans-1,2-Dichloroethene	ug/kg	40 U	48 U	37 U	38 U
trans-1,3-Dichloropropene	ug/kg	40 UJ	48 UJ	37 UJ	38 U
Trichloroethene	ug/kg	49	**170**[bc]	63	99
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	95 U	74 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	240 U	180 U	190 U
Vinyl chloride	ug/kg	80 U	95 U	74 U	76 U
Xylenes (total)	ug/kg	120 U	140 U	110 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB9-05	SB9-05	SB9-05	SB9-05
Sample Identification		SO-17360-071105-DCR-431	SO-17360-071105-DCR-432	SO-17360-071105-DCR-433	SO-17360-071105-DCR-434
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	42 U	39 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	80 U	83 U	78 U	77 U
1,1,2-Trichloroethane	ug/kg	40 U	42 U	39 U	38 U
1,1-Dichloroethane	ug/kg	40 U	42 U	39 U	38 U
1,1-Dichloroethene	ug/kg	40 U	42 U	39 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	210 U	200 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	210 U	200 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	210 U	200 U	190 U
1,2-Dichlorobenzene	ug/kg	80 U	83 U	78 U	77 U
1,2-Dichloroethane	ug/kg	40 U	42 U	39 U	38 U
1,2-Dichloropropane	ug/kg	40 U	42 U	39 U	38 U
1,3-Dichlorobenzene	ug/kg	80 U	83 U	78 U	77 U
1,4-Dichlorobenzene	ug/kg	80 U	83 U	78 U	77 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	620 U	590 U	580 U
2-Hexanone	ug/kg	2000 U	2100 U	2000 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2100 U	2000 U	1900 U
Acetone	ug/kg	600 U	620 U	590 U	580 U
Benzene	ug/kg	40 U	42 U	39 U	38 U
Bromodichloromethane	ug/kg	80 U	83 U	78 U	77 U
Bromoform	ug/kg	80 U	83 U	78 U	77 U
Bromomethane (Methyl bromide)	ug/kg	200 U	210 U	200 U	190 U
Carbon disulfide	ug/kg	200 U	210 U	200 U	190 U
Carbon tetrachloride	ug/kg	40 U	42 U	39 U	38 U
Chlorobenzene	ug/kg	40 U	42 U	39 U	38 U
Chloroethane	ug/kg	200 U	210 U	200 U	190 U
Chloroform (Trichloromethane)	ug/kg	40 U	42 U	39 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	210 U	200 U	190 U
cis-1,2-Dichloroethene	ug/kg	40 U	42 U	39 U	38 U
cis-1,3-Dichloropropene	ug/kg	40 U	42 U	39 U	38 U
Cyclohexane	ug/kg	960 U	1000 U	940 U	920 U
Dibromochloromethane	ug/kg	40 U	42 U	39 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	83 U	78 U	77 U
Ethylbenzene	ug/kg	40 U	42 U	39 U	38 U
Isopropyl benzene	ug/kg	200 U	210 U	200 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB9-05	SB9-05	SB9-05	SB9-05
Sample Identification		SO-17360-071105-DCR-431	SO-17360-071105-DCR-432	SO-17360-071105-DCR-433	SO-17360-071105-DCR-434
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Methyl acetate	ug/kg	960 U	1000 U	940 U	920 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	960 U	1000 U	940 U	920 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	210 U	200 U	190 U
Methylene chloride	ug/kg	200 U	210 U	200 U	190 U
Styrene	ug/kg	40 U	42 U	39 U	38 U
Tetrachloroethene	ug/kg	40 U	42 U	39 U	38 U
Toluene	ug/kg	80 U	83 U	78 U	77 U
trans-1,2-Dichloroethene	ug/kg	40 U	42 U	39 U	38 U
trans-1,3-Dichloropropene	ug/kg	40 U	42 U	39 U	38 U
Trichloroethene	ug/kg	40 U	42 U	39 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	83 U	78 U	77 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	210 U	200 U	190 U
Vinyl chloride	ug/kg	80 U	83 U	78 U	77 U
Xylenes (total)	ug/kg	120 U	120 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB9-05	SB9-05	SB9-05	SB9-05
Sample Identification		SO-17360-071105-DCR-435	SO-17360-071105-DCR-436	SO-17360-071105-DCR-437	SO-17360-071105-DCR-438
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	38 U	37 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	77 U	74 U	75 U
1,1,2-Trichloroethane	ug/kg	39 U	38 U	37 U	38 U
1,1-Dichloroethane	ug/kg	39 U	38 U	37 U	38 U
1,1-Dichloroethene	ug/kg	39 U	38 U	37 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	190 U	180 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	190 U	180 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	190 U	180 U	190 U
1,2-Dichlorobenzene	ug/kg	78 U	77 U	74 U	75 U
1,2-Dichloroethane	ug/kg	39 U	38 U	37 U	38 U
1,2-Dichloropropane	ug/kg	39 U	38 U	37 U	38 U
1,3-Dichlorobenzene	ug/kg	78 U	77 U	74 U	75 U
1,4-Dichlorobenzene	ug/kg	78 U	77 U	74 U	75 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	590 U	580 U	550 U	560 U
2-Hexanone	ug/kg	2000 U	1900 U	1800 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	1900 U	1800 U	1900 U
Acetone	ug/kg	590 U	580 U	550 U	560 U
Benzene	ug/kg	39 U	38 U	37 U	38 U
Bromodichloromethane	ug/kg	78 U	77 U	74 U	75 U
Bromoform	ug/kg	78 U	77 U	74 U	75 U
Bromomethane (Methyl bromide)	ug/kg	200 U	190 U	180 U	190 U
Carbon disulfide	ug/kg	200 U	190 U	180 U	190 U
Carbon tetrachloride	ug/kg	39 U	38 U	37 U	38 U
Chlorobenzene	ug/kg	39 U	38 U	37 U	38 U
Chloroethane	ug/kg	200 U	190 U	180 U	190 U
Chloroform (Trichloromethane)	ug/kg	39 U	38 U	37 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	190 U	180 U	190 U
cis-1,2-Dichloroethene	ug/kg	39 U	38 U	37 U	38 U
cis-1,3-Dichloropropene	ug/kg	39 U	38 U	37 U	38 U
Cyclohexane	ug/kg	940 U	920 U	880 U	900 U
Dibromochloromethane	ug/kg	39 U	38 U	37 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	77 U	74 U	75 U
Ethylbenzene	ug/kg	39 U	38 U	37 U	38 U
Isopropyl benzene	ug/kg	200 U	190 U	180 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB9-05**	**SB9-05**	**SB9-05**	**SB9-05**
Sample Identification		**SO-17360-071105-DCR-435**	**SO-17360-071105-DCR-436**	**SO-17360-071105-DCR-437**	**SO-17360-071105-DCR-438**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	940 U	920 U	880 U	100 J
VOCs (continued)					
Methyl cyclohexane	ug/kg	940 U	920 U	880 U	900 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	190 U	180 U	190 U
Methylene chloride	ug/kg	200 U	190 U	180 U	190 U
Styrene	ug/kg	39 U	38 U	37 U	38 U
Tetrachloroethene	ug/kg	39 U	38 U	37 U	38 U
Toluene	ug/kg	78 U	77 U	74 U	75 U
trans-1,2-Dichloroethene	ug/kg	39 U	38 U	37 U	38 U
trans-1,3-Dichloropropene	ug/kg	39 U	38 U	37 U	38 U
Trichloroethene	ug/kg	39 U	38 U	37 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	77 U	74 U	75 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	190 U	180 U	190 U
Vinyl chloride	ug/kg	78 U	77 U	74 U	75 U
Xylenes (total)	ug/kg	120 U	120 U	110 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB9-05	SB10-05	SB10-05	SB10-05
Sample Identification		SO-17360-071105-DCR-439	SO-17360-071205-DCR-481	SO-17360-071205-DCR-482	SO-17360-071205-DCR-483
Sample Date		7/11/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	37 U	38 U	41 U
1,1,2,2-Tetrachloroethane	ug/kg	76 U	74 U	75 U	82 U
1,1,2-Trichloroethane	ug/kg	38 U	37 U	38 U	41 U
1,1-Dichloroethane	ug/kg	38 U	37 U	38 U	41 U
1,1-Dichloroethene	ug/kg	38 U	37 U	38 U	41 U
1,2,4-Trichlorobenzene	ug/kg	190 U	180 U	190 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	180 U	190 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	180 U	190 U	210 U
1,2-Dichlorobenzene	ug/kg	76 U	74 U	75 U	82 U
1,2-Dichloroethane	ug/kg	38 U	37 U	38 U	41 U
1,2-Dichloropropane	ug/kg	38 U	37 U	38 U	41 U
1,3-Dichlorobenzene	ug/kg	76 U	74 U	75 U	82 U
1,4-Dichlorobenzene	ug/kg	76 U	74 U	75 U	82 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	570 U	550 U	560 U	620 U
2-Hexanone	ug/kg	1900 U	1800 U	1900 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	1800 U	1900 U	2100 U
Acetone	ug/kg	570 U	550 U	560 U	620 U
Benzene	ug/kg	38 U	37 U	38 U	41 U
Bromodichloromethane	ug/kg	76 U	74 UJ	75 UJ	82 UJ
Bromoform	ug/kg	76 U	74 U	75 U	82 U
Bromomethane (Methyl bromide)	ug/kg	190 U	180 U	190 U	210 U
Carbon disulfide	ug/kg	190 U	180 U	190 U	210 U
Carbon tetrachloride	ug/kg	38 U	37 U	38 U	41 U
Chlorobenzene	ug/kg	38 U	37 U	38 U	41 U
Chloroethane	ug/kg	190 U	180 U	190 U	210 U
Chloroform (Trichloromethane)	ug/kg	38 U	37 U	38 U	41 U
Chloromethane (Methyl chloride)	ug/kg	190 U	180 U	190 U	210 U
cis-1,2-Dichloroethene	ug/kg	38 U	37 U	38 U	41 U
cis-1,3-Dichloropropene	ug/kg	38 U	37 UJ	38 UJ	41 UJ
Cyclohexane	ug/kg	910 U	10 J	900 U	990 U
Dibromochloromethane	ug/kg	38 U	37 U	38 U	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	76 U	74 U	75 U	82 U
Ethylbenzene	ug/kg	38 U	37 U	38 U	41 U
Isopropyl benzene	ug/kg	190 U	180 U	190 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB9-05**	**SB10-05**	**SB10-05**	**SB10-05**
Sample Identification		**SO-17360-071105-DCR-439**	**SO-17360-071205-DCR-481**	**SO-17360-071205-DCR-482**	**SO-17360-071205-DCR-483**
Sample Date		**7/11/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	910 U	76 J	900 U	990 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	910 U	31 J	900 U	990 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	180 U	190 U	210 U
Methylene chloride	ug/kg	190 U	180 U	190 U	210 U
Styrene	ug/kg	38 U	37 U	38 U	41 U
Tetrachloroethene	ug/kg	38 U	37 U	38 U	41 U
Toluene	ug/kg	76 U	12 J	75 U	82 U
trans-1,2-Dichloroethene	ug/kg	38 U	37 U	38 U	41 U
trans-1,3-Dichloropropene	ug/kg	38 U	37 UJ	38 UJ	41 UJ
Trichloroethene	ug/kg	38 U	**540**[bc]	38 U	41 U
Trichlorofluoromethane (CFC-11)	ug/kg	76 U	74 U	75 U	82 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	180 U	190 U	210 U
Vinyl chloride	ug/kg	76 U	74 U	75 U	82 U
Xylenes (total)	ug/kg	110 U	27 J	110 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB10-05**	**SB10-05**	**SB10-05**	**SB10-05**
Sample Identification		**SO-17360-071205-DCR-484**	**SO-17360-071205-DCR-485**	**SO-17360-071205-DCR-486**	**SO-17360-071205-DCR-487**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	38 U	41 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	76 U	76 U	82 U	79 U
1,1,2-Trichloroethane	ug/kg	38 U	38 U	41 U	40 U
1,1-Dichloroethane	ug/kg	38 U	38 U	41 U	40 U
1,1-Dichloroethene	ug/kg	38 U	38 U	41 U	40 U
1,2,4-Trichlorobenzene	ug/kg	190 U	190 U	200 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	190 U	200 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	190 U	200 U	200 U
1,2-Dichlorobenzene	ug/kg	76 U	76 U	82 U	79 U
1,2-Dichloroethane	ug/kg	38 U	38 U	41 U	40 U
1,2-Dichloropropane	ug/kg	38 U	38 U	41 U	40 U
1,3-Dichlorobenzene	ug/kg	76 U	76 U	82 U	79 U
1,4-Dichlorobenzene	ug/kg	76 U	76 U	82 U	79 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	570 U	570 U	610 U	590 U
2-Hexanone	ug/kg	1900 U	1900 U	2000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	1900 U	2000 U	2000 U
Acetone	ug/kg	570 U	570 U	610 U	590 U
Benzene	ug/kg	38 U	38 U	41 U	40 U
Bromodichloromethane	ug/kg	76 UJ	76 UJ	82 UJ	79 UJ
Bromoform	ug/kg	76 U	76 U	82 U	79 U
Bromomethane (Methyl bromide)	ug/kg	190 U	190 U	200 U	200 U
Carbon disulfide	ug/kg	190 U	190 U	200 U	200 U
Carbon tetrachloride	ug/kg	38 U	38 U	41 U	40 U
Chlorobenzene	ug/kg	38 U	38 U	41 U	40 U
Chloroethane	ug/kg	190 U	190 U	200 U	200 U
Chloroform (Trichloromethane)	ug/kg	38 U	38 U	41 U	40 U
Chloromethane (Methyl chloride)	ug/kg	190 U	190 U	200 U	200 U
cis-1,2-Dichloroethene	ug/kg	38 U	38 U	41 U	40 U
cis-1,3-Dichloropropene	ug/kg	38 UJ	38 UJ	41 UJ	40 UJ
Cyclohexane	ug/kg	910 U	910 U	980 U	950 U
Dibromochloromethane	ug/kg	38 U	38 U	41 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	76 U	76 U	82 U	79 U
Ethylbenzene	ug/kg	38 U	38 U	41 U	40 U
Isopropyl benzene	ug/kg	190 U	190 U	200 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB10-05**	**SB10-05**	**SB10-05**	**SB10-05**
Sample Identification		**SO-17360-071205-DCR-484**	**SO-17360-071205-DCR-485**	**SO-17360-071205-DCR-486**	**SO-17360-071205-DCR-487**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	910 U	910 U	980 U	950 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	910 U	910 U	980 U	950 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	190 U	200 U	200 U
Methylene chloride	ug/kg	190 U	190 U	200 U	200 U
Styrene	ug/kg	38 U	38 U	41 U	40 U
Tetrachloroethene	ug/kg	38 U	38 U	41 U	40 U
Toluene	ug/kg	76 U	76 U	82 U	79 U
trans-1,2-Dichloroethene	ug/kg	38 U	38 U	41 U	40 U
trans-1,3-Dichloropropene	ug/kg	38 UJ	38 UJ	41 UJ	40 U
Trichloroethene	ug/kg	38 U	38 U	29 J	30 J
Trichlorofluoromethane (CFC-11)	ug/kg	76 U	76 U	82 U	79 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	190 U	200 U	200 U
Vinyl chloride	ug/kg	76 U	76 U	82 U	79 U
Xylenes (total)	ug/kg	110 U	110 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB10-05**	**SB10-05**	**SB10-05**	**SB11-05**
Sample Identification		**SO-17360-071205-DCR-488**	**SO-17360-071205-DCR-489**	**SO-17360-071205-DCR-490**	**SO-17360-071205-DCR-491**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	40 U	41 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	80 U	79 U	82 U	80 U
1,1,2-Trichloroethane	ug/kg	40 U	40 U	41 U	40 U
1,1-Dichloroethane	ug/kg	40 U	40 U	41 U	40 U
1,1-Dichloroethene	ug/kg	40 U	40 U	41 U	40 U
1,2,4-Trichlorobenzene	ug/kg	200 U	200 U	210 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	200 U	210 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	200 U	210 U	200 U
1,2-Dichlorobenzene	ug/kg	80 U	79 U	82 U	80 U
1,2-Dichloroethane	ug/kg	40 U	40 U	41 U	40 U
1,2-Dichloropropane	ug/kg	40 U	40 U	41 U	40 U
1,3-Dichlorobenzene	ug/kg	80 U	79 U	82 U	80 U
1,4-Dichlorobenzene	ug/kg	80 U	79 U	82 U	80 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	590 U	620 U	600 U
2-Hexanone	ug/kg	2000 U	2000 U	2100 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2000 U	2100 U	2000 U
Acetone	ug/kg	600 U	590 U	620 U	600 U
Benzene	ug/kg	40 U	40 U	41 U	40 U
Bromodichloromethane	ug/kg	80 UJ	79 UJ	82 UJ	80 UJ
Bromoform	ug/kg	80 U	79 U	82 U	80 U
Bromomethane (Methyl bromide)	ug/kg	200 U	200 U	210 U	200 U
Carbon disulfide	ug/kg	200 U	200 U	210 U	200 U
Carbon tetrachloride	ug/kg	40 U	40 U	41 U	40 U
Chlorobenzene	ug/kg	40 U	40 U	41 U	40 U
Chloroethane	ug/kg	200 U	200 U	210 U	200 U
Chloroform (Trichloromethane)	ug/kg	40 U	40 U	41 U	40 U
Chloromethane (Methyl chloride)	ug/kg	200 U	200 U	210 U	200 U
cis-1,2-Dichloroethene	ug/kg	40 U	40 U	41 U	40 U
cis-1,3-Dichloropropene	ug/kg	40 UJ	40 UJ	41 UJ	40 UJ
Cyclohexane	ug/kg	960 U	950 U	990 U	960 U
Dibromochloromethane	ug/kg	40 U	40 U	41 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	79 U	82 U	80 U
Ethylbenzene	ug/kg	40 U	40 U	41 U	40 U
Isopropyl benzene	ug/kg	200 U	200 U	210 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Sample Location		**SB10-05**	**SB10-05**	**SB10-05**	**SB11-05**
Sample Identification		**SO-17360-071205-DCR-488**	**SO-17360-071205-DCR-489**	**SO-17360-071205-DCR-490**	**SO-17360-071205-DCR-491**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	960 U	950 U	990 U	960 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	960 U	950 U	990 U	6.3 J
Methyl tert butyl ether (MTBE)	ug/kg	200 U	200 U	210 U	200 U
Methylene chloride	ug/kg	200 U	200 U	210 U	200 U
Styrene	ug/kg	40 U	40 U	41 U	40 U
Tetrachloroethene	ug/kg	40 U	40 U	41 U	40 U
Toluene	ug/kg	80 U	79 U	82 U	80 U
trans-1,2-Dichloroethene	ug/kg	40 U	40 U	41 U	40 U
trans-1,3-Dichloropropene	ug/kg	40 U	40 U	41 U	40 U
Trichloroethene	ug/kg	16 J	21 J	41 U	76
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	79 U	82 U	80 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	200 U	210 U	200 U
Vinyl chloride	ug/kg	80 U	79 U	82 U	80 U
Xylenes (total)	ug/kg	120 U	120 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB11-05	SB11-05	SB11-05	SB11-05
Sample Identification		SO-17360-071205-DCR-492	SO-17360-071205-DCR-493	SO-17360-071205-DCR-494	SO-17360-071205-DCR-495
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	39 U	40 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	76 U	78 U	79 U	80 U
1,1,2-Trichloroethane	ug/kg	38 U	39 U	40 U	40 U
1,1-Dichloroethane	ug/kg	38 U	39 U	40 U	40 U
1,1-Dichloroethene	ug/kg	38 U	39 U	40 U	40 U
1,2,4-Trichlorobenzene	ug/kg	190 U	190 U	200 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	190 U	200 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	190 U	200 U	200 U
1,2-Dichlorobenzene	ug/kg	76 U	78 U	79 U	80 U
1,2-Dichloroethane	ug/kg	38 U	39 U	40 U	40 U
1,2-Dichloropropane	ug/kg	38 U	39 U	40 U	40 U
1,3-Dichlorobenzene	ug/kg	76 U	78 U	79 U	80 U
1,4-Dichlorobenzene	ug/kg	76 U	78 U	79 U	80 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	570 U	580 U	590 U	600 U
2-Hexanone	ug/kg	1900 U	1900 U	2000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	1900 U	2000 U	2000 U
Acetone	ug/kg	570 U	580 U	590 U	600 U
Benzene	ug/kg	38 U	39 U	40 U	40 U
Bromodichloromethane	ug/kg	76 UJ	78 UJ	79 UJ	80 UJ
Bromoform	ug/kg	76 U	78 U	79 U	80 U
Bromomethane (Methyl bromide)	ug/kg	190 U	190 U	200 U	200 U
Carbon disulfide	ug/kg	190 U	190 U	200 U	200 U
Carbon tetrachloride	ug/kg	38 U	39 U	40 U	40 U
Chlorobenzene	ug/kg	38 U	39 U	40 U	40 U
Chloroethane	ug/kg	190 U	190 U	200 U	200 U
Chloroform (Trichloromethane)	ug/kg	38 U	39 U	40 U	40 U
Chloromethane (Methyl chloride)	ug/kg	190 U	190 U	200 U	200 U
cis-1,2-Dichloroethene	ug/kg	38 U	39 U	40 U	40 U
cis-1,3-Dichloropropene	ug/kg	38 UJ	39 UJ	40 UJ	40 UJ
Cyclohexane	ug/kg	910 U	930 U	950 U	960 U
Dibromochloromethane	ug/kg	38 U	39 U	40 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	76 U	78 U	79 U	80 U
Ethylbenzene	ug/kg	38 U	39 U	40 U	40 U
Isopropyl benzene	ug/kg	190 U	190 U	200 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Wyoming, Michigan

Sample Location		**SB11-05**	**SB11-05**	**SB11-05**	**SB11-05**
Sample Identification		**SO-17360-071205-DCR-492**	**SO-17360-071205-DCR-493**	**SO-17360-071205-DCR-494**	**SO-17360-071205-DCR-495**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	910 U	930 U	950 U	960 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	910 U	930 U	950 U	960 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	190 U	200 U	200 U
Methylene chloride	ug/kg	190 U	190 U	200 U	200 U
Styrene	ug/kg	38 U	39 U	40 U	40 U
Tetrachloroethene	ug/kg	38 U	39 U	40 U	40 U
Toluene	ug/kg	76 U	78 U	79 U	80 U
trans-1,2-Dichloroethene	ug/kg	38 U	39 U	40 U	40 U
trans-1,3-Dichloropropene	ug/kg	38 U	39 U	40 U	40 U
Trichloroethene	ug/kg	38 U	39 U	40 U	40 U
Trichlorofluoromethane (CFC-11)	ug/kg	76 U	78 U	79 U	80 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	190 U	200 U	200 U
Vinyl chloride	ug/kg	76 U	78 U	79 U	80 U
Xylenes (total)	ug/kg	110 U	120 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB11-05	SB11-05	SB11-05	SB11-05
Sample Identification		SO-17360-071205-DCR-496	SO-17360-071205-DCR-497	SO-17360-071205-DCR-498	SO-17360-071205-DCR-499
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	1900 U	150 U	39 U	1000 U
1,1,2,2-Tetrachloroethane	ug/kg	3700 U	300 U	78 U	2000 U
1,1,2-Trichloroethane	ug/kg	1900 U	150 U	39 U	1000 U
1,1-Dichloroethane	ug/kg	1900 U	150 U	39 U	1000 U
1,1-Dichloroethene	ug/kg	1900 U	150 U	39 U	1000 U
1,2,4-Trichlorobenzene	ug/kg	9300 U	750 U	200 U	5000 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	9300 U	750 U	200 U	5000 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	9300 U	750 U	200 U	5000 U
1,2-Dichlorobenzene	ug/kg	3700 U	300 U	78 U	2000 U
1,2-Dichloroethane	ug/kg	1900 U	150 U	39 U	1000 U
1,2-Dichloropropane	ug/kg	1900 U	150 U	39 U	1000 U
1,3-Dichlorobenzene	ug/kg	3700 U	300 U	78 U	2000 U
1,4-Dichlorobenzene	ug/kg	3700 U	300 U	78 U	2000 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	28000 U	2200 U	590 U	15000 U
2-Hexanone	ug/kg	93000 U	7500 U	2000 U	50000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	93000 U	7500 U	2000 U	50000 U
Acetone	ug/kg	28000 U	2200 U	590 U	15000 U
Benzene	ug/kg	1900 U	150 U	39 U	1000 U
Bromodichloromethane	ug/kg	3700 UJ	300 UJ	78 UJ	2000 UJ
Bromoform	ug/kg	3700 U	300 U	78 U	2000 U
Bromomethane (Methyl bromide)	ug/kg	9300 U	750 U	200 U	5000 U
Carbon disulfide	ug/kg	9300 U	750 U	200 U	5000 U
Carbon tetrachloride	ug/kg	1900 U	150 U	39 U	1000 U
Chlorobenzene	ug/kg	1900 U	150 U	39 U	1000 U
Chloroethane	ug/kg	9300 U	750 U	200 U	5000 U
Chloroform (Trichloromethane)	ug/kg	1900 U	150 U	39 U	1000 U
Chloromethane (Methyl chloride)	ug/kg	9300 U	750 U	200 U	5000 U
cis-1,2-Dichloroethene	ug/kg	1900 U	150 U	39 U	1000 U
cis-1,3-Dichloropropene	ug/kg	1900 UJ	150 UJ	39 UJ	1000 UJ
Cyclohexane	ug/kg	45000 U	3600 U	940 U	24000 U
Dibromochloromethane	ug/kg	1900 U	150 U	39 U	1000 U
Dichlorodifluoromethane (CFC-12)	ug/kg	3700 U	300 U	78 U	2000 U
Ethylbenzene	ug/kg	1900 U	150 U	39 U	1000 U
Isopropyl benzene	ug/kg	9300 U	750 U	200 U	5000 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB11-05**	**SB11-05**	**SB11-05**	**SB11-05**
Sample Identification		**SO-17360-071205-DCR-496**	**SO-17360-071205-DCR-497**	**SO-17360-071205-DCR-498**	**SO-17360-071205-DCR-499**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	100000	12000	3600	49000
VOCs (continued)					
Methyl cyclohexane	ug/kg	45000 U	3600 U	940 U	24000 U
Methyl tert butyl ether (MTBE)	ug/kg	9300 U	750 U	200 U	5000 U
Methylene chloride	ug/kg	9300 U	750 U	200 U	5000 U
Styrene	ug/kg	1900 U	150 U	39 U	1000 U
Tetrachloroethene	ug/kg	1900 U	150 U	39 U	1000 U
Toluene	ug/kg	3700 U	300 U	78 U	2000 U
trans-1,2-Dichloroethene	ug/kg	1900 U	150 U	39 U	1000 U
trans-1,3-Dichloropropene	ug/kg	1900 U	150 U	39 U	1000 U
Trichloroethene	ug/kg	1900 U	57 J	27 J	1000 U
Trichlorofluoromethane (CFC-11)	ug/kg	3700 U	300 U	78 U	2000 U
Trifluorotrichloroethane (Freon 113)	ug/kg	9300 U	750 U	200 U	5000 U
Vinyl chloride	ug/kg	3700 U	300 U	78 U	2000 U
Xylenes (total)	ug/kg	5600 U	450 U	120 U	3000 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB11-05	SB12-05	SB12-05	SB12-05
Sample Identification		SO-17360-071205-DCR-500	SO-17360-071105-DCR-440	SO-17360-071105-DCR-441	SO-17360-071105-DCR-442
Sample Date		7/12/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	240 U	41 U	160 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	480 U	82 U	320 U	74 U
1,1,2-Trichloroethane	ug/kg	240 U	41 U	160 U	37 U
1,1-Dichloroethane	ug/kg	240 U	41 U	160 U	37 U
1,1-Dichloroethene	ug/kg	240 U	41 U	160 U	37 U
1,2,4-Trichlorobenzene	ug/kg	1200 U	210 U	800 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	1200 U	210 U	800 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	1200 U	210 U	800 U	190 U
1,2-Dichlorobenzene	ug/kg	480 U	82 U	320 U	74 U
1,2-Dichloroethane	ug/kg	240 U	41 U	160 U	37 U
1,2-Dichloropropane	ug/kg	240 U	41 U	160 U	37 U
1,3-Dichlorobenzene	ug/kg	480 U	82 U	320 U	74 U
1,4-Dichlorobenzene	ug/kg	480 U	82 U	320 U	74 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	3600 U	620 U	2400 U	560 U
2-Hexanone	ug/kg	12000 U	2100 U	8000 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	12000 U	2100 U	8000 U	1900 U
Acetone	ug/kg	3600 U	620 U	2400 U	560 U
Benzene	ug/kg	240 U	8.7 J	73 J	6.0 J
Bromodichloromethane	ug/kg	480 UJ	82 U	320 UJ	74 U
Bromoform	ug/kg	480 U	82 U	320 U	74 U
Bromomethane (Methyl bromide)	ug/kg	1200 U	210 U	800 U	190 U
Carbon disulfide	ug/kg	1200 U	210 U	800 U	190 U
Carbon tetrachloride	ug/kg	240 U	41 U	160 U	37 U
Chlorobenzene	ug/kg	240 U	41 U	160 U	37 U
Chloroethane	ug/kg	1200 U	210 U	800 U	190 U
Chloroform (Trichloromethane)	ug/kg	240 U	41 U	160 U	37 U
Chloromethane (Methyl chloride)	ug/kg	1200 U	210 U	800 U	190 U
cis-1,2-Dichloroethene	ug/kg	240 U	41 U	160 U	37 U
cis-1,3-Dichloropropene	ug/kg	240 UJ	41 U	160 U	37 U
Cyclohexane	ug/kg	5800 U	61 J	300 J	24 J
Dibromochloromethane	ug/kg	240 U	41 UJ	160 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	480 U	82 U	320 U	74 U
Ethylbenzene	ug/kg	240 U	22 J	130 J	10 J
Isopropyl benzene	ug/kg	1200 U	25 J	120 J	9.4 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB11-05**	**SB12-05**	**SB12-05**	**SB12-05**
Sample Identification		**SO-17360-071205-DCR-500**	**SO-17360-071105-DCR-440**	**SO-17360-071105-DCR-441**	**SO-17360-071105-DCR-442**
Sample Date		**7/12/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	25000	990 U	3800 U	890 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	5800 U	220 J	880 J	67 J
Methyl tert butyl ether (MTBE)	ug/kg	1200 U	210 U	800 U	190 U
Methylene chloride	ug/kg	1200 U	210 U	800 U	190 U
Styrene	ug/kg	240 U	41 U	160 U	37 U
Tetrachloroethene	ug/kg	240 U	41 U	160 U	37 U
Toluene	ug/kg	480 U	76 J	490	41 J
trans-1,2-Dichloroethene	ug/kg	240 U	41 U	160 U	37 U
trans-1,3-Dichloropropene	ug/kg	240 U	41 U	160 U	37 U
Trichloroethene	ug/kg	240 U	**2200 J[bcef]**	**5500[bcdef]**	**530[bc]**
Trichlorofluoromethane (CFC-11)	ug/kg	480 U	82 U	320 U	74 U
Trifluorotrichloroethane (Freon 113)	ug/kg	1200 U	210 U	800 U	190 U
Vinyl chloride	ug/kg	480 U	82 U	320 U	74 U
Xylenes (total)	ug/kg	730 U	190	**910[d]**	68 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB12-05	SB12-05	SB12-05	SB12-05
Sample Identification		SO-17360-071105-DCR-443	SO-17360-071105-DCR-444	SO-17360-071105-DCR-445	SO-17360-071105-DCR-446
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	40 U	39 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	80 U	78 U	76 U
1,1,2-Trichloroethane	ug/kg	39 U	40 U	39 U	38 U
1,1-Dichloroethane	ug/kg	39 U	40 U	39 U	38 U
1,1-Dichloroethene	ug/kg	39 U	40 U	39 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	200 U	200 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	200 U	200 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	200 U	200 U	190 U
1,2-Dichlorobenzene	ug/kg	78 U	80 U	78 U	76 U
1,2-Dichloroethane	ug/kg	39 U	40 U	39 U	38 U
1,2-Dichloropropane	ug/kg	39 U	40 U	39 U	38 U
1,3-Dichlorobenzene	ug/kg	78 U	80 U	78 U	76 U
1,4-Dichlorobenzene	ug/kg	78 U	80 U	78 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	590 U	600 U	590 U	570 U
2-Hexanone	ug/kg	2000 U	2000 U	2000 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2000 U	2000 U	1900 U
Acetone	ug/kg	590 U	600 U	590 U	570 U
Benzene	ug/kg	39 U	40 U	39 U	38 U
Bromodichloromethane	ug/kg	78 U	80 U	78 U	76 U
Bromoform	ug/kg	78 U	80 U	78 U	76 U
Bromomethane (Methyl bromide)	ug/kg	200 U	200 U	200 U	190 U
Carbon disulfide	ug/kg	200 U	200 U	200 U	190 U
Carbon tetrachloride	ug/kg	39 U	40 U	39 U	38 U
Chlorobenzene	ug/kg	39 U	40 U	39 U	38 U
Chloroethane	ug/kg	200 U	200 U	200 U	190 U
Chloroform (Trichloromethane)	ug/kg	39 U	40 U	39 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	200 U	200 U	190 U
cis-1,2-Dichloroethene	ug/kg	39 U	40 U	39 U	38 U
cis-1,3-Dichloropropene	ug/kg	39 U	40 U	39 U	38 U
Cyclohexane	ug/kg	940 U	960 U	940 U	910 U
Dibromochloromethane	ug/kg	39 U	40 U	39 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	80 U	78 U	76 U
Ethylbenzene	ug/kg	39 U	40 U	39 U	38 U
Isopropyl benzene	ug/kg	200 U	200 U	200 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB12-05**	**SB12-05**	**SB12-05**	**SB12-05**
Sample Identification		**SO-17360-071105-DCR-443**	**SO-17360-071105-DCR-444**	**SO-17360-071105-DCR-445**	**SO-17360-071105-DCR-446**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	940 U	960 U	940 U	910 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	940 U	960 U	940 U	910 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	200 U	200 U	190 U
Methylene chloride	ug/kg	200 U	200 U	200 U	190 U
Styrene	ug/kg	39 U	40 U	39 U	38 U
Tetrachloroethene	ug/kg	39 U	40 U	39 U	38 U
Toluene	ug/kg	78 U	80 U	78 U	76 U
trans-1,2-Dichloroethene	ug/kg	39 U	40 U	39 U	38 U
trans-1,3-Dichloropropene	ug/kg	39 U	40 U	39 U	38 U
Trichloroethene	ug/kg	39 U	40 U	39 U	13 J
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	80 U	78 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	200 U	200 U	190 U
Vinyl chloride	ug/kg	78 U	80 U	78 U	76 U
Xylenes (total)	ug/kg	120 U	120 U	120 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB12-05	SB12-05	SB12-05	SB13-05
Sample Identification		SO-17360-071105-DCR-447	SO-17360-071105-DCR-448	SO-17360-071105-DCR-449	SO-17360-071105-DCR-409
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	37 U	38 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	79 U	74 U	76 U	74 U
1,1,2-Trichloroethane	ug/kg	40 U	37 U	38 U	37 U
1,1-Dichloroethane	ug/kg	40 U	37 U	38 U	37 U
1,1-Dichloroethene	ug/kg	40 U	37 U	38 U	37 U
1,2,4-Trichlorobenzene	ug/kg	200 U	180 U	190 U	180 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	180 U	190 U	180 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	180 U	190 U	180 U
1,2-Dichlorobenzene	ug/kg	79 U	74 U	76 U	74 U
1,2-Dichloroethane	ug/kg	40 U	37 U	38 U	37 U
1,2-Dichloropropane	ug/kg	40 U	37 U	38 U	37 U
1,3-Dichlorobenzene	ug/kg	79 U	74 U	76 U	74 U
1,4-Dichlorobenzene	ug/kg	79 U	74 U	76 U	74 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	590 U	550 U	570 U	550 U
2-Hexanone	ug/kg	2000 U	1800 U	1900 U	1800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	1800 U	1900 U	1800 U
Acetone	ug/kg	590 U	550 U	570 U	550 U
Benzene	ug/kg	40 U	37 U	38 U	37 U
Bromodichloromethane	ug/kg	79 U	74 UJ	76 UJ	74 UJ
Bromoform	ug/kg	79 U	74 U	76 U	74 U
Bromomethane (Methyl bromide)	ug/kg	200 U	180 U	190 U	180 U
Carbon disulfide	ug/kg	200 U	180 U	190 U	180 U
Carbon tetrachloride	ug/kg	40 U	37 U	38 U	37 U
Chlorobenzene	ug/kg	40 U	37 U	38 U	37 U
Chloroethane	ug/kg	200 U	180 U	190 U	180 U
Chloroform (Trichloromethane)	ug/kg	40 U	37 U	38 U	37 U
Chloromethane (Methyl chloride)	ug/kg	200 U	180 U	190 U	180 U
cis-1,2-Dichloroethene	ug/kg	40 U	37 U	38 U	37 U
cis-1,3-Dichloropropene	ug/kg	40 U	37 U	38 U	37 U
Cyclohexane	ug/kg	950 U	880 U	910 U	48 J
Dibromochloromethane	ug/kg	40 U	37 U	38 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	79 U	74 U	76 U	74 U
Ethylbenzene	ug/kg	40 U	37 U	38 U	18 J
Isopropyl benzene	ug/kg	200 U	180 U	190 U	19 J

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB12-05**	**SB12-05**	**SB12-05**	**SB13-05**
Sample Identification		**SO-17360-071105-DCR-447**	**SO-17360-071105-DCR-448**	**SO-17360-071105-DCR-449**	**SO-17360-071105-DCR-409**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	360 J	880 U	910 U	880 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	15 J	880 U	910 U	160 J
Methyl tert butyl ether (MTBE)	ug/kg	200 U	180 U	190 U	180 U
Methylene chloride	ug/kg	200 U	180 U	190 U	180 U
Styrene	ug/kg	40 U	37 U	38 U	37 U
Tetrachloroethene	ug/kg	40 U	37 U	38 U	37 U
Toluene	ug/kg	9.8 J	74 U	76 U	40 J
trans-1,2-Dichloroethene	ug/kg	40 U	37 U	38 U	37 U
trans-1,3-Dichloropropene	ug/kg	40 U	37 U	38 U	37 UJ
Trichloroethene	ug/kg	**140[bc]**	12 J	38 U	**1500[bce]**
Trichlorofluoromethane (CFC-11)	ug/kg	79 U	74 U	76 U	74 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	180 U	190 U	180 U
Vinyl chloride	ug/kg	79 U	74 U	76 U	74 U
Xylenes (total)	ug/kg	16 J	110 U	110 U	160

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB13-05	SB13-05	SB13-05	SB13-05
Sample Identification		SO-17360-071105-DCR-410	SO-17360-071105-DCR-411	SO-17360-071105-DCR-412	SO-17360-071105-DCR-413
Sample Date		7/11/2005	7/11/2005	7/11/2005	7/11/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	37 U	40 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	74 U	80 U	80 U
1,1,2-Trichloroethane	ug/kg	39 U	37 U	40 U	40 U
1,1-Dichloroethane	ug/kg	39 U	37 U	40 U	40 U
1,1-Dichloroethene	ug/kg	39 U	37 U	40 U	40 U
1,2,4-Trichlorobenzene	ug/kg	200 U	190 U	200 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	190 U	200 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	190 U	200 U	200 U
1,2-Dichlorobenzene	ug/kg	78 U	74 U	80 U	80 U
1,2-Dichloroethane	ug/kg	39 U	37 U	40 U	40 U
1,2-Dichloropropane	ug/kg	39 U	37 U	40 U	40 U
1,3-Dichlorobenzene	ug/kg	78 U	74 U	80 U	80 U
1,4-Dichlorobenzene	ug/kg	78 U	74 U	80 U	80 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	590 U	560 U	600 U	600 U
2-Hexanone	ug/kg	2000 U	1900 U	2000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	1900 U	2000 U	2000 U
Acetone	ug/kg	590 U	560 U	600 U	600 U
Benzene	ug/kg	39 U	37 U	40 U	40 U
Bromodichloromethane	ug/kg	78 UJ	74 UJ	80 UJ	80 UJ
Bromoform	ug/kg	78 U	74 U	80 U	80 U
Bromomethane (Methyl bromide)	ug/kg	200 U	190 U	200 U	200 U
Carbon disulfide	ug/kg	200 U	190 U	200 U	200 U
Carbon tetrachloride	ug/kg	39 U	37 U	40 U	40 U
Chlorobenzene	ug/kg	39 U	37 U	40 U	40 U
Chloroethane	ug/kg	200 U	190 U	200 U	200 U
Chloroform (Trichloromethane)	ug/kg	39 U	37 U	40 U	40 U
Chloromethane (Methyl chloride)	ug/kg	200 U	190 U	200 U	200 U
cis-1,2-Dichloroethene	ug/kg	39 U	37 U	40 U	40 U
cis-1,3-Dichloropropene	ug/kg	39 U	37 U	40 U	40 U
Cyclohexane	ug/kg	940 U	890 U	960 U	960 U
Dibromochloromethane	ug/kg	39 U	37 U	40 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	74 U	80 U	80 U
Ethylbenzene	ug/kg	39 U	37 U	40 U	40 U
Isopropyl benzene	ug/kg	200 U	190 U	200 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB13-05**	**SB13-05**	**SB13-05**	**SB13-05**
Sample Identification		**SO-17360-071105-DCR-410**	**SO-17360-071105-DCR-411**	**SO-17360-071105-DCR-412**	**SO-17360-071105-DCR-413**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	940 U	73 J	960 U	960 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	940 U	890 U	960 U	960 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	190 U	200 U	200 U
Methylene chloride	ug/kg	200 U	190 U	200 U	200 U
Styrene	ug/kg	39 U	37 U	40 U	40 U
Tetrachloroethene	ug/kg	39 U	37 U	40 U	40 U
Toluene	ug/kg	78 U	74 U	80 U	80 U
trans-1,2-Dichloroethene	ug/kg	39 U	37 U	40 U	40 U
trans-1,3-Dichloropropene	ug/kg	39 UJ	37 UJ	40 UJ	40 UJ
Trichloroethene	ug/kg	39 U	20 J	40 U	40 U
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	74 U	80 U	80 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	190 U	200 U	200 U
Vinyl chloride	ug/kg	78 U	74 U	80 U	80 U
Xylenes (total)	ug/kg	120 U	110 U	120 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB13-05**	**SB13-05**	**SB13-05**	**SB13-05**
Sample Identification		**SO-17360-071105-DCR-414**	**SO-17360-071105-DCR-415**	**SO-17360-071105-DCR-416**	**SO-17360-071105-DCR-417**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	40 U	40 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	80 U	79 U	79 U
1,1,2-Trichloroethane	ug/kg	39 U	40 U	40 U	40 U
1,1-Dichloroethane	ug/kg	39 U	40 U	40 U	40 U
1,1-Dichloroethene	ug/kg	39 U	40 U	40 U	40 U
1,2,4-Trichlorobenzene	ug/kg	190 U	200 U	200 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	200 U	200 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	200 U	200 U	200 U
1,2-Dichlorobenzene	ug/kg	78 U	80 U	79 U	79 U
1,2-Dichloroethane	ug/kg	39 U	40 U	40 U	40 U
1,2-Dichloropropane	ug/kg	39 U	40 U	40 U	40 U
1,3-Dichlorobenzene	ug/kg	78 U	80 U	79 U	79 U
1,4-Dichlorobenzene	ug/kg	78 U	80 U	79 U	79 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	580 U	600 U	590 U	590 U
2-Hexanone	ug/kg	1900 U	2000 U	2000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	2000 U	2000 U	2000 U
Acetone	ug/kg	580 U	600 U	590 U	590 U
Benzene	ug/kg	39 U	40 U	40 U	40 U
Bromodichloromethane	ug/kg	78 UJ	80 UJ	79 UJ	79 UJ
Bromoform	ug/kg	78 U	80 U	79 U	79 U
Bromomethane (Methyl bromide)	ug/kg	190 U	200 U	200 U	200 U
Carbon disulfide	ug/kg	190 U	200 U	200 U	200 U
Carbon tetrachloride	ug/kg	39 U	40 U	40 U	40 U
Chlorobenzene	ug/kg	39 U	40 U	40 U	40 U
Chloroethane	ug/kg	190 U	200 U	200 U	200 U
Chloroform (Trichloromethane)	ug/kg	39 U	40 U	40 U	40 U
Chloromethane (Methyl chloride)	ug/kg	190 U	200 U	200 U	200 U
cis-1,2-Dichloroethene	ug/kg	39 U	40 U	40 U	40 U
cis-1,3-Dichloropropene	ug/kg	39 U	40 U	40 U	40 U
Cyclohexane	ug/kg	930 U	960 U	950 U	13 J
Dibromochloromethane	ug/kg	39 U	40 U	40 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	78 U	80 U	79 U	79 U
Ethylbenzene	ug/kg	39 U	40 U	40 U	40 U
Isopropyl benzene	ug/kg	190 U	200 U	200 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB13-05**	**SB13-05**	**SB13-05**	**SB13-05**
Sample Identification		**SO-17360-071105-DCR-414**	**SO-17360-071105-DCR-415**	**SO-17360-071105-DCR-416**	**SO-17360-071105-DCR-417**
Sample Date		**7/11/2005**	**7/11/2005**	**7/11/2005**	**7/11/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	71 J	380 J	950 U	440 J
VOCs (continued)					
Methyl cyclohexane	ug/kg	930 U	14 J	950 U	37 J
Methyl tert butyl ether (MTBE)	ug/kg	190 U	200 U	200 U	200 U
Methylene chloride	ug/kg	190 U	200 U	200 U	200 U
Styrene	ug/kg	39 U	40 U	40 U	40 U
Tetrachloroethene	ug/kg	39 U	40 U	40 U	40 U
Toluene	ug/kg	78 U	80 U	79 U	19 J
trans-1,2-Dichloroethene	ug/kg	39 U	40 U	40 U	40 U
trans-1,3-Dichloropropene	ug/kg	39 UJ	40 UJ	40 UJ	40 UJ
Trichloroethene	ug/kg	12 J	**290**[bc]	40 U	**440**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	78 U	80 U	79 U	79 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	200 U	200 U	200 U
Vinyl chloride	ug/kg	78 U	80 U	79 U	79 U
Xylenes (total)	ug/kg	120 U	15 J	120 U	36 J

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB13-05	SB14-05	SB14-05	SB14-05
Sample Identification		SO-17360-071105-DCR-418	SO-17360-071205-DCR-460	SO-17360-071205-DCR-461	SO-17360-071205-DCR-462
Sample Date		7/11/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	40 U	48 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	80 U	80 U	95 U	84 U
1,1,2-Trichloroethane	ug/kg	40 U	40 U	48 U	42 U
1,1-Dichloroethane	ug/kg	40 U	40 U	48 U	42 U
1,1-Dichloroethene	ug/kg	40 U	40 U	48 U	42 U
1,2,4-Trichlorobenzene	ug/kg	200 U	200 U	240 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	200 U	240 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	200 U	240 U	210 U
1,2-Dichlorobenzene	ug/kg	80 U	80 U	95 U	84 U
1,2-Dichloroethane	ug/kg	40 U	40 U	48 U	42 U
1,2-Dichloropropane	ug/kg	40 U	40 U	48 U	42 U
1,3-Dichlorobenzene	ug/kg	80 U	80 U	95 U	84 U
1,4-Dichlorobenzene	ug/kg	80 U	80 U	95 U	84 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	600 U	600 U	710 U	630 U
2-Hexanone	ug/kg	2000 U	2000 U	2400 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2000 U	2400 U	2100 U
Acetone	ug/kg	600 U	600 U	710 U	630 U
Benzene	ug/kg	40 U	40 U	48 U	42 U
Bromodichloromethane	ug/kg	80 UJ	80 UJ	95 UJ	84 UJ
Bromoform	ug/kg	80 U	80 U	95 U	84 U
Bromomethane (Methyl bromide)	ug/kg	200 U	200 U	240 U	210 U
Carbon disulfide	ug/kg	200 U	200 U	240 U	210 U
Carbon tetrachloride	ug/kg	40 U	40 U	48 U	42 U
Chlorobenzene	ug/kg	40 U	40 U	48 U	42 U
Chloroethane	ug/kg	200 U	200 U	240 U	210 U
Chloroform (Trichloromethane)	ug/kg	40 U	40 U	48 U	42 U
Chloromethane (Methyl chloride)	ug/kg	200 U	200 U	240 U	210 U
cis-1,2-Dichloroethene	ug/kg	40 U	40 U	48 U	42 U
cis-1,3-Dichloropropene	ug/kg	40 U	40 U	48 U	42 U
Cyclohexane	ug/kg	960 U	7.9 J	1100 U	1000 U
Dibromochloromethane	ug/kg	40 U	40 U	48 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	80 U	80 U	95 U	84 U
Ethylbenzene	ug/kg	40 U	40 U	48 U	42 U
Isopropyl benzene	ug/kg	200 U	200 U	240 U	210 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB13-05**	**SB14-05**	**SB14-05**	**SB14-05**
Sample Identification		**SO-17360-071105-DCR-418**	**SO-17360-071205-DCR-460**	**SO-17360-071205-DCR-461**	**SO-17360-071205-DCR-462**
Sample Date		**7/11/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	960 U	960 U	1100 U	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	960 U	24 J	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	200 U	240 U	210 U
Methylene chloride	ug/kg	200 U	200 U	240 U	210 U
Styrene	ug/kg	40 U	40 U	48 U	42 U
Tetrachloroethene	ug/kg	40 U	40 U	48 U	42 U
Toluene	ug/kg	80 U	80 U	95 U	84 U
trans-1,2-Dichloroethene	ug/kg	40 U	40 U	48 U	42 U
trans-1,3-Dichloropropene	ug/kg	40 UJ	40 U	48 U	42 U
Trichloroethene	ug/kg	40 U	**820**[bc]	48 U	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	80 U	80 U	95 U	84 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	200 U	240 U	210 U
Vinyl chloride	ug/kg	80 U	80 U	95 U	84 U
Xylenes (total)	ug/kg	120 U	21 J	140 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB14-05	SB14-05	SB14-05	SB14-05
Sample Identification		SO-17360-071205-DCR-463	SO-17360-071205-DCR-464	SO-17360-071205-DCR-465	SO-17360-071205-DCR-466
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	40 U	40 U	42 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	79 U	79 U	85 U	76 U
1,1,2-Trichloroethane	ug/kg	40 U	40 U	42 U	38 U
1,1-Dichloroethane	ug/kg	40 U	40 U	42 U	38 U
1,1-Dichloroethene	ug/kg	40 U	40 U	42 U	38 U
1,2,4-Trichlorobenzene	ug/kg	200 U	200 U	210 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	200 U	210 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	200 U	210 U	190 U
1,2-Dichlorobenzene	ug/kg	79 U	79 U	85 U	76 U
1,2-Dichloroethane	ug/kg	40 U	40 U	42 U	38 U
1,2-Dichloropropane	ug/kg	40 U	40 U	42 U	38 U
1,3-Dichlorobenzene	ug/kg	79 U	79 U	85 U	76 U
1,4-Dichlorobenzene	ug/kg	79 U	79 U	85 U	76 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	590 U	590 U	640 U	570 U
2-Hexanone	ug/kg	2000 U	2000 U	2100 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2000 U	2100 U	1900 U
Acetone	ug/kg	590 U	590 U	640 U	570 U
Benzene	ug/kg	40 U	40 U	42 U	38 U
Bromodichloromethane	ug/kg	79 UJ	79 UJ	85 UJ	76 UJ
Bromoform	ug/kg	79 U	79 U	85 U	76 U
Bromomethane (Methyl bromide)	ug/kg	200 U	200 U	210 U	190 U
Carbon disulfide	ug/kg	200 U	200 U	210 U	190 U
Carbon tetrachloride	ug/kg	40 U	40 U	42 U	38 U
Chlorobenzene	ug/kg	40 U	40 U	42 U	38 U
Chloroethane	ug/kg	200 U	200 U	210 U	190 U
Chloroform (Trichloromethane)	ug/kg	40 U	40 U	42 U	38 U
Chloromethane (Methyl chloride)	ug/kg	200 U	200 U	210 U	190 U
cis-1,2-Dichloroethene	ug/kg	40 U	40 U	42 U	38 U
cis-1,3-Dichloropropene	ug/kg	40 U	40 U	42 U	38 U
Cyclohexane	ug/kg	950 U	950 U	1000 U	910 U
Dibromochloromethane	ug/kg	40 U	40 U	42 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	79 U	79 U	85 U	76 U
Ethylbenzene	ug/kg	40 U	40 U	42 U	38 U
Isopropyl benzene	ug/kg	200 U	200 U	210 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB14-05**	**SB14-05**	**SB14-05**	**SB14-05**
Sample Identification		**SO-17360-071205-DCR-463**	**SO-17360-071205-DCR-464**	**SO-17360-071205-DCR-465**	**SO-17360-071205-DCR-466**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	950 U	950 U	1000 U	910 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	950 U	950 U	1000 U	910 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	200 U	210 U	190 U
Methylene chloride	ug/kg	200 U	200 U	210 U	190 U
Styrene	ug/kg	40 U	40 U	42 U	38 U
Tetrachloroethene	ug/kg	40 U	40 U	42 U	38 U
Toluene	ug/kg	79 U	79 U	85 U	76 U
trans-1,2-Dichloroethene	ug/kg	40 U	40 U	42 U	38 U
trans-1,3-Dichloropropene	ug/kg	40 U	40 U	42 U	38 U
Trichloroethene	ug/kg	40 U	40 U	29 J	16 J
Trichlorofluoromethane (CFC-11)	ug/kg	79 U	79 U	85 U	76 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	200 U	210 U	190 U
Vinyl chloride	ug/kg	79 U	79 U	85 U	76 U
Xylenes (total)	ug/kg	120 U	120 U	130 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB14-05	SB14-05	SB14-05	SB14-05
Sample Identification		SO-17360-071205-DCR-467	SO-17360-071205-DCR-468	SO-17360-071205-DCR-469	SO-17360-071205-DCR-470
Sample Date		7/12/2005	7/12/2005	7/12/2005	7/12/2005
Sample Type			Duplicate		
Sample Depth		(14-16) ft BGS	(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	37 U	45 U	37 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	74 U	90 U	74 U	80 U
1,1,2-Trichloroethane	ug/kg	37 U	45 U	37 U	40 U
1,1-Dichloroethane	ug/kg	37 U	45 U	37 U	40 U
1,1-Dichloroethene	ug/kg	37 U	45 U	37 U	40 U
1,2,4-Trichlorobenzene	ug/kg	190 U	220 U	180 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	190 U	220 U	180 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	190 U	220 U	180 U	200 U
1,2-Dichlorobenzene	ug/kg	74 U	90 U	74 U	80 U
1,2-Dichloroethane	ug/kg	37 U	45 U	37 U	40 U
1,2-Dichloropropane	ug/kg	37 U	45 U	37 U	40 U
1,3-Dichlorobenzene	ug/kg	74 U	90 U	74 U	80 U
1,4-Dichlorobenzene	ug/kg	74 U	90 U	74 U	80 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	560 U	670 U	550 U	600 U
2-Hexanone	ug/kg	1900 U	2200 U	1800 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1900 U	2200 U	1800 U	2000 U
Acetone	ug/kg	560 U	670 U	550 U	600 U
Benzene	ug/kg	37 U	45 U	37 U	40 U
Bromodichloromethane	ug/kg	74 UJ	90 UJ	74 UJ	80 UJ
Bromoform	ug/kg	74 U	90 U	74 U	80 U
Bromomethane (Methyl bromide)	ug/kg	190 U	220 U	180 U	200 U
Carbon disulfide	ug/kg	190 U	220 U	180 U	200 U
Carbon tetrachloride	ug/kg	37 U	45 U	37 U	40 U
Chlorobenzene	ug/kg	37 U	45 U	37 U	40 U
Chloroethane	ug/kg	190 U	220 U	180 U	200 U
Chloroform (Trichloromethane)	ug/kg	37 U	45 U	37 U	40 U
Chloromethane (Methyl chloride)	ug/kg	190 U	220 U	180 U	200 U
cis-1,2-Dichloroethene	ug/kg	37 U	45 U	37 U	40 U
cis-1,3-Dichloropropene	ug/kg	37 UJ	45 UJ	37 UJ	40 UJ
Cyclohexane	ug/kg	890 U	1100 U	880 U	960 U
Dibromochloromethane	ug/kg	37 U	45 U	37 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	74 U	90 U	74 U	80 U
Ethylbenzene	ug/kg	37 U	45 U	37 U	40 U
Isopropyl benzene	ug/kg	190 U	220 U	180 U	200 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB14-05**	**SB14-05**	**SB14-05**	**SB14-05**
Sample Identification		**SO-17360-071205-DCR-467**	**SO-17360-071205-DCR-468**	**SO-17360-071205-DCR-469**	**SO-17360-071205-DCR-470**
Sample Date		**7/12/2005**	**7/12/2005**	**7/12/2005**	**7/12/2005**
Sample Type			**Duplicate**		
Sample Depth		**(14-16) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	890 U	1100 U	880 U	960 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	890 U	1100 U	880 U	960 U
Methyl tert butyl ether (MTBE)	ug/kg	190 U	220 U	180 U	200 U
Methylene chloride	ug/kg	190 U	220 U	180 U	200 U
Styrene	ug/kg	37 U	45 U	37 U	40 U
Tetrachloroethene	ug/kg	37 U	45 U	37 U	40 U
Toluene	ug/kg	74 U	90 U	74 U	80 U
trans-1,2-Dichloroethene	ug/kg	37 U	45 U	37 U	40 U
trans-1,3-Dichloropropene	ug/kg	37 UJ	45 UJ	37 UJ	40 UJ
Trichloroethene	ug/kg	19 J	18 J	**120**[bc]	31 J
Trichlorofluoromethane (CFC-11)	ug/kg	74 U	90 U	74 U	80 U
Trifluorotrichloroethane (Freon 113)	ug/kg	190 U	220 U	180 U	200 U
Vinyl chloride	ug/kg	74 U	90 U	74 U	80 U
Xylenes (total)	ug/kg	110 U	130 U	110 U	120 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB15-05	SB15-05	SB15-05	SB15-05
Sample Identification		SO-17360-120305-DCR-540	SO-17360-120305-DCR-541	SO-17360-120305-DCR-542	SO-17360-120305-DCR-543
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	42 U	44 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	87 U	84 U	88 U	85 U
1,1,2-Trichloroethane	ug/kg	44 U	42 U	44 U	42 U
1,1-Dichloroethane	ug/kg	44 U	42 U	44 U	42 U
1,1-Dichloroethene	ug/kg	44 U	42 U	44 U	42 U
1,2,4-Trichlorobenzene	ug/kg	220 U	210 U	220 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	210 U	220 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	210 U	220 U	210 U
1,2-Dichlorobenzene	ug/kg	87 U	84 U	88 U	85 U
1,2-Dichloroethane	ug/kg	44 U	42 U	44 U	42 U
1,2-Dichloropropane	ug/kg	44 U	42 U	44 U	42 U
1,3-Dichlorobenzene	ug/kg	87 U	84 U	88 U	85 U
1,4-Dichlorobenzene	ug/kg	87 U	84 U	88 U	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	650 U	630 U	660 U	640 U
2-Hexanone	ug/kg	2200 U	2100 U	2200 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2100 U	2200 U	2100 U
Acetone	ug/kg	650 UJ	630 UJ	660 UJ	640 UJ
Benzene	ug/kg	44 U	42 U	44 U	42 U
Bromodichloromethane	ug/kg	87 U	84 U	88 U	85 U
Bromoform	ug/kg	87 U	84 U	88 U	85 U
Bromomethane (Methyl bromide)	ug/kg	220 U	210 U	220 U	210 U
Carbon disulfide	ug/kg	220 U	210 U	220 U	210 U
Carbon tetrachloride	ug/kg	44 U	42 U	44 U	42 U
Chlorobenzene	ug/kg	44 U	42 U	44 U	42 U
Chloroethane	ug/kg	220 U	210 U	220 U	210 U
Chloroform (Trichloromethane)	ug/kg	44 U	42 U	44 U	42 U
Chloromethane (Methyl chloride)	ug/kg	220 U	210 U	220 U	210 U
cis-1,2-Dichloroethene	ug/kg	44 U	42 U	44 U	42 U
cis-1,3-Dichloropropene	ug/kg	44 U	42 U	44 U	42 U
Cyclohexane	ug/kg	1000 U	1000 U	1100 U	1000 U
Dibromochloromethane	ug/kg	44 U	42 U	44 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	87 U	84 U	88 U	85 U
Ethylbenzene	ug/kg	44 U	42 U	44 U	42 U
Isopropyl benzene	ug/kg	220 U	210 U	220 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB15-05**	**SB15-05**	**SB15-05**	**SB15-05**
Sample Identification		**SO-17360-120305-DCR-540**	**SO-17360-120305-DCR-541**	**SO-17360-120305-DCR-542**	**SO-17360-120305-DCR-543**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1000 U	1000 U	1100 U	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1000 U	1000 U	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	210 U	220 U	210 U
Methylene chloride	ug/kg	220 U	210 U	220 U	210 U
Styrene	ug/kg	44 U	42 U	44 U	42 U
Tetrachloroethene	ug/kg	44 U	42 U	44 U	42 U
Toluene	ug/kg	87 U	84 U	88 U	85 U
trans-1,2-Dichloroethene	ug/kg	44 U	42 U	44 U	42 U
trans-1,3-Dichloropropene	ug/kg	44 U	42 U	44 U	42 U
Trichloroethene	ug/kg	**2100**[bcef]	40 J	14 J	26 J
Trichlorofluoromethane (CFC-11)	ug/kg	87 U	84 U	88 U	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	210 U	220 U	210 U
Vinyl chloride	ug/kg	87 U	84 U	88 U	85 U
Xylenes (total)	ug/kg	130 U	130 U	130 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB15-05	SB15-05	SB15-05	SB15-05
Sample Identification		SO-17360-120305-DCR-544	SO-17360-120305-DCR-545	SO-17360-120305-DCR-546	SO-17360-120305-DCR-547
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	48 U	140 U	46 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	96 U	270 U	91 U	84 U
1,1,2-Trichloroethane	ug/kg	48 U	140 U	46 U	42 U
1,1-Dichloroethane	ug/kg	48 U	140 U	46 U	42 U
1,1-Dichloroethene	ug/kg	48 U	140 U	46 U	42 U
1,2,4-Trichlorobenzene	ug/kg	240 U	680 U	230 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	680 U	230 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	680 U	230 U	210 U
1,2-Dichlorobenzene	ug/kg	96 U	270 U	91 U	84 U
1,2-Dichloroethane	ug/kg	48 U	140 U	46 U	42 U
1,2-Dichloropropane	ug/kg	48 U	140 U	46 U	42 U
1,3-Dichlorobenzene	ug/kg	96 U	270 U	91 U	84 U
1,4-Dichlorobenzene	ug/kg	96 U	270 U	91 U	84 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	720 U	2000 U	690 U	630 U
2-Hexanone	ug/kg	2400 U	6800 U	2300 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	6800 U	2300 U	2100 U
Acetone	ug/kg	720 UJ	2000 UJ	690 UJ	630 UJ
Benzene	ug/kg	48 U	140 U	46 U	42 U
Bromodichloromethane	ug/kg	96 U	270 U	91 U	84 U
Bromoform	ug/kg	96 U	270 U	91 U	84 U
Bromomethane (Methyl bromide)	ug/kg	240 U	680 U	230 U	210 U
Carbon disulfide	ug/kg	240 U	680 U	230 U	210 U
Carbon tetrachloride	ug/kg	48 U	140 U	46 U	42 U
Chlorobenzene	ug/kg	48 U	140 U	46 U	42 U
Chloroethane	ug/kg	240 U	680 U	230 U	210 U
Chloroform (Trichloromethane)	ug/kg	48 U	140 U	46 U	42 U
Chloromethane (Methyl chloride)	ug/kg	240 U	680 U	230 U	210 U
cis-1,2-Dichloroethene	ug/kg	48 U	140 U	46 U	42 U
cis-1,3-Dichloropropene	ug/kg	48 U	140 U	46 U	42 U
Cyclohexane	ug/kg	1100 U	3300 U	1100 U	1000 U
Dibromochloromethane	ug/kg	48 U	140 U	46 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	96 U	270 U	91 U	84 U
Ethylbenzene	ug/kg	48 U	140 U	46 U	42 U
Isopropyl benzene	ug/kg	240 U	680 U	230 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB15-05**	**SB15-05**	**SB15-05**	**SB15-05**
Sample Identification		**SO-17360-120305-DCR-544**	**SO-17360-120305-DCR-545**	**SO-17360-120305-DCR-546**	**SO-17360-120305-DCR-547**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1100 U	800 J	1100 U	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	35 J	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	240 U	680 U	230 U	210 U
Methylene chloride	ug/kg	240 U	680 U	230 U	210 U
Styrene	ug/kg	48 U	140 U	46 U	42 U
Tetrachloroethene	ug/kg	48 U	140 U	46 U	42 U
Toluene	ug/kg	96 U	270 U	91 U	84 U
trans-1,2-Dichloroethene	ug/kg	48 U	140 U	46 U	42 U
trans-1,3-Dichloropropene	ug/kg	48 U	140 U	46 U	42 U
Trichloroethene	ug/kg	48 U	**12000**[bcdefg]	80	59
Trichlorofluoromethane (CFC-11)	ug/kg	96 U	270 U	91 U	84 U
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	680 U	230 U	210 U
Vinyl chloride	ug/kg	96 U	270 U	91 U	84 U
Xylenes (total)	ug/kg	140 U	410 U	140 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB15-05	SB15-05	SB16-05	SB16-05
Sample Identification		SO-17360-120305-DCR-548	SO-17360-120305-DCR-549	SO-17360-120305-DCR-508	SO-17360-120305-DCR-509
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					Duplicate
Sample Depth		(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	44 U	43 U	55 U
1,1,2,2-Tetrachloroethane	ug/kg	88 U	88 U	86 U	110 U
1,1,2-Trichloroethane	ug/kg	44 U	44 U	43 U	55 U
1,1-Dichloroethane	ug/kg	44 U	44 U	43 U	55 U
1,1-Dichloroethene	ug/kg	44 U	44 U	43 U	55 U
1,2,4-Trichlorobenzene	ug/kg	220 U	220 U	220 U	280 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	220 U	220 U	280 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	220 U	220 U	280 U
1,2-Dichlorobenzene	ug/kg	88 U	88 U	86 U	110 U
1,2-Dichloroethane	ug/kg	44 U	44 U	43 U	55 U
1,2-Dichloropropane	ug/kg	44 U	44 U	43 U	55 U
1,3-Dichlorobenzene	ug/kg	88 U	88 U	86 U	110 U
1,4-Dichlorobenzene	ug/kg	88 U	88 U	86 U	110 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	660 U	650 U	830 U
2-Hexanone	ug/kg	2200 U	2200 U	2200 U	2800 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2200 U	2200 U	2800 U
Acetone	ug/kg	660 U	660 U	650 U	830 U
Benzene	ug/kg	44 U	44 U	43 U	55 U
Bromodichloromethane	ug/kg	88 U	88 U	86 U	110 U
Bromoform	ug/kg	88 U	88 U	86 U	110 U
Bromomethane (Methyl bromide)	ug/kg	220 U	220 U	220 U	280 U
Carbon disulfide	ug/kg	220 U	220 U	220 U	280 U
Carbon tetrachloride	ug/kg	44 U	44 U	43 U	55 U
Chlorobenzene	ug/kg	44 U	44 U	43 U	55 U
Chloroethane	ug/kg	220 U	220 U	220 U	280 U
Chloroform (Trichloromethane)	ug/kg	44 U	44 U	43 U	55 U
Chloromethane (Methyl chloride)	ug/kg	220 U	220 U	220 U	280 U
cis-1,2-Dichloroethene	ug/kg	44 U	44 U	43 U	55 U
cis-1,3-Dichloropropene	ug/kg	44 U	44 U	43 U	55 U
Cyclohexane	ug/kg	1100 U	1100 U	1000 U	1300 U
Dibromochloromethane	ug/kg	44 U	44 U	43 U	55 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	88 U	86 U	110 U
Ethylbenzene	ug/kg	44 U	44 U	43 U	55 U
Isopropyl benzene	ug/kg	220 U	220 U	220 U	280 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Sample Location		**SB15-05**	**SB15-05**	**SB16-05**	**SB16-05**
Sample Identification		**SO-17360-120305-DCR-548**	**SO-17360-120305-DCR-549**	**SO-17360-120305-DCR-508**	**SO-17360-120305-DCR-509**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					**Duplicate**
Sample Depth		**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1100 U	1100 U	1000 U	1300 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	1100 U	1000 U	1300 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	220 U	220 U	280 U
Methylene chloride	ug/kg	220 U	220 U	220 U	280 U
Styrene	ug/kg	44 U	44 U	43 U	55 U
Tetrachloroethene	ug/kg	44 U	44 U	43 U	55 U
Toluene	ug/kg	88 U	88 U	86 U	110 U
trans-1,2-Dichloroethene	ug/kg	44 U	44 U	43 U	55 U
trans-1,3-Dichloropropene	ug/kg	44 U	44 U	43 U	55 U
Trichloroethene	ug/kg	59	17 J	**1200**[bce]	**740**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	88 U	86 U	110 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	220 U	220 U	280 U
Vinyl chloride	ug/kg	88 U	88 U	86 U	110 U
Xylenes (total)	ug/kg	130 U	130 U	130 U	170 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB16-05	SB16-05	SB16-05	SB16-05
Sample Identification		SO-17360-120305-DCR-510	SO-17360-120305-DCR-511	SO-17360-120305-DCR-512	SO-17360-120305-DCR-513
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	42 U	48 U	42 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	83 U	96 U	84 U	87 U
1,1,2-Trichloroethane	ug/kg	42 U	48 U	42 U	43 U
1,1-Dichloroethane	ug/kg	42 U	48 U	42 U	43 U
1,1-Dichloroethene	ug/kg	42 U	48 U	42 U	43 U
1,2,4-Trichlorobenzene	ug/kg	210 U	240 U	210 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	240 U	210 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	240 U	210 U	220 U
1,2-Dichlorobenzene	ug/kg	83 U	96 U	84 U	87 U
1,2-Dichloroethane	ug/kg	42 U	48 U	42 U	43 U
1,2-Dichloropropane	ug/kg	42 U	48 U	42 U	43 U
1,3-Dichlorobenzene	ug/kg	83 U	96 U	84 U	87 U
1,4-Dichlorobenzene	ug/kg	83 U	96 U	84 U	87 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U	720 U	630 U	650 U
2-Hexanone	ug/kg	2100 U	2400 U	2100 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2400 U	2100 U	2200 U
Acetone	ug/kg	630 U	720 U	630 U	650 U
Benzene	ug/kg	42 U	48 U	42 U	43 U
Bromodichloromethane	ug/kg	83 U	96 U	84 U	87 U
Bromoform	ug/kg	83 U	96 U	84 U	87 U
Bromomethane (Methyl bromide)	ug/kg	210 U	240 U	210 U	220 U
Carbon disulfide	ug/kg	210 U	240 U	210 U	220 U
Carbon tetrachloride	ug/kg	42 U	48 U	42 U	43 U
Chlorobenzene	ug/kg	42 U	48 U	42 U	43 U
Chloroethane	ug/kg	210 U	240 U	210 U	220 U
Chloroform (Trichloromethane)	ug/kg	42 U	48 U	42 U	43 U
Chloromethane (Methyl chloride)	ug/kg	210 U	240 U	210 U	220 U
cis-1,2-Dichloroethene	ug/kg	42 U	48 U	42 U	43 U
cis-1,3-Dichloropropene	ug/kg	42 U	48 U	42 U	43 U
Cyclohexane	ug/kg	1000 U	1100 U	1000 U	1000 U
Dibromochloromethane	ug/kg	42 U	48 U	42 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	83 U	96 U	84 U	87 U
Ethylbenzene	ug/kg	42 U	48 U	42 U	43 U
Isopropyl benzene	ug/kg	210 U	240 U	210 U	220 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB16-05**	**SB16-05**	**SB16-05**	**SB16-05**
Sample Identification		**SO-17360-120305-DCR-510**	**SO-17360-120305-DCR-511**	**SO-17360-120305-DCR-512**	**SO-17360-120305-DCR-513**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1000 U	1100 U	80 J	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1000 U	1100 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	240 U	210 U	220 U
Methylene chloride	ug/kg	210 U	240 U	210 U	220 U
Styrene	ug/kg	42 U	48 U	42 U	43 U
Tetrachloroethene	ug/kg	42 U	48 U	42 U	43 U
Toluene	ug/kg	83 U	96 U	84 U	87 U
trans-1,2-Dichloroethene	ug/kg	42 U	48 U	42 U	43 U
trans-1,3-Dichloropropene	ug/kg	42 U	48 U	42 U	43 U
Trichloroethene	ug/kg	74	25 J	**160[bc]**	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	83 U	96 U	84 U	87 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	240 U	210 U	220 U
Vinyl chloride	ug/kg	83 U	96 U	84 U	87 U
Xylenes (total)	ug/kg	130 U	140 U	130 U	130 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB16-05	SB16-05	SB16-05	SB16-05
Sample Identification		SO-17360-120305-DCR-514	SO-17360-120305-DCR-515	SO-17360-120305-DCR-516	SO-17360-120305-DCR-517
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	45 U	46 U	47 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	90 U	91 U	94 U	75 U
1,1,2-Trichloroethane	ug/kg	45 U	46 U	47 U	38 U
1,1-Dichloroethane	ug/kg	45 U	46 U	47 U	38 U
1,1-Dichloroethene	ug/kg	45 U	46 U	47 U	38 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U	240 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U	240 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U	240 U	190 U
1,2-Dichlorobenzene	ug/kg	90 U	91 U	94 U	75 U
1,2-Dichloroethane	ug/kg	45 U	46 U	47 U	38 U
1,2-Dichloropropane	ug/kg	45 U	46 U	47 U	38 U
1,3-Dichlorobenzene	ug/kg	90 U	91 U	94 U	75 U
1,4-Dichlorobenzene	ug/kg	90 U	91 U	94 U	75 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	670 U	680 U	710 U	560 U
2-Hexanone	ug/kg	2200 U	2300 U	2400 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U	2400 U	1900 U
Acetone	ug/kg	670 U	680 U	710 U	560 U
Benzene	ug/kg	45 U	46 U	47 U	38 U
Bromodichloromethane	ug/kg	90 U	91 U	94 U	75 U
Bromoform	ug/kg	90 U	91 U	94 U	75 U
Bromomethane (Methyl bromide)	ug/kg	220 U	230 U	240 U	190 U
Carbon disulfide	ug/kg	220 U	230 U	240 U	190 U
Carbon tetrachloride	ug/kg	45 U	46 U	47 U	38 U
Chlorobenzene	ug/kg	45 U	46 U	47 U	38 U
Chloroethane	ug/kg	220 U	230 U	240 U	190 U
Chloroform (Trichloromethane)	ug/kg	45 U	46 U	47 U	38 U
Chloromethane (Methyl chloride)	ug/kg	220 U	230 U	240 U	190 U
cis-1,2-Dichloroethene	ug/kg	45 U	46 U	47 U	38 U
cis-1,3-Dichloropropene	ug/kg	45 U	46 U	47 U	38 U
Cyclohexane	ug/kg	1100 U	1100 U	1100 U	900 U
Dibromochloromethane	ug/kg	45 U	46 U	47 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	91 U	94 U	75 U
Ethylbenzene	ug/kg	45 U	46 U	47 U	38 U
Isopropyl benzene	ug/kg	220 U	230 U	240 U	190 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB16-05**	**SB16-05**	**SB16-05**	**SB16-05**
Sample Identification		**SO-17360-120305-DCR-514**	**SO-17360-120305-DCR-515**	**SO-17360-120305-DCR-516**	**SO-17360-120305-DCR-517**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(10-12) ft BGS**	**(12-14) ft BGS**	**(14-16) ft BGS**	**(16-18) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1100 U	1100 U	1100 U	900 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	1100 U	1100 U	900 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U	240 U	190 U
Methylene chloride	ug/kg	220 U	230 U	240 U	190 U
Styrene	ug/kg	45 U	46 U	47 U	38 U
Tetrachloroethene	ug/kg	45 U	46 U	47 U	38 U
Toluene	ug/kg	90 U	91 U	94 U	75 U
trans-1,2-Dichloroethene	ug/kg	45 U	46 U	47 U	38 U
trans-1,3-Dichloropropene	ug/kg	45 U	46 U	47 U	38 U
Trichloroethene	ug/kg	16 J	20 J	31 J	17 J
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	91 U	94 U	75 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U	240 U	190 U
Vinyl chloride	ug/kg	90 U	91 U	94 U	75 U
Xylenes (total)	ug/kg	130 U	140 U	140 U	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB16-05	SB17-05	SB17-05	SB17-05
Sample Identification		SO-17360-120305-DCR-518	SO-17360-120305-DCR-519	SO-17360-120305-DCR-520	SO-17360-120305-DCR-521
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	43 U	42 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	87 U	87 U	85 U	85 U
1,1,2-Trichloroethane	ug/kg	44 U	43 U	42 U	42 U
1,1-Dichloroethane	ug/kg	44 U	43 U	42 U	42 U
1,1-Dichloroethene	ug/kg	44 U	43 U	42 U	42 U
1,2,4-Trichlorobenzene	ug/kg	220 U	220 U	210 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	220 U	210 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	220 U	210 U	210 U
1,2-Dichlorobenzene	ug/kg	87 U	87 U	85 U	85 U
1,2-Dichloroethane	ug/kg	44 U	43 U	42 U	42 U
1,2-Dichloropropane	ug/kg	44 U	43 U	42 U	42 U
1,3-Dichlorobenzene	ug/kg	87 U	87 U	85 U	85 U
1,4-Dichlorobenzene	ug/kg	87 U	87 U	85 U	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	650 U	640 U	630 U
2-Hexanone	ug/kg	2200 U	2200 U	2100 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2200 U	2100 U	2100 U
Acetone	ug/kg	660 U	650 U	640 U	630 U
Benzene	ug/kg	44 U	43 U	42 U	42 U
Bromodichloromethane	ug/kg	87 U	87 U	85 U	85 U
Bromoform	ug/kg	87 U	87 U	85 U	85 U
Bromomethane (Methyl bromide)	ug/kg	220 U	220 U	210 U	210 U
Carbon disulfide	ug/kg	220 U	220 U	210 U	210 U
Carbon tetrachloride	ug/kg	44 U	43 U	42 U	42 U
Chlorobenzene	ug/kg	44 U	43 U	42 U	42 U
Chloroethane	ug/kg	220 U	220 U	210 U	210 U
Chloroform (Trichloromethane)	ug/kg	44 U	43 U	42 U	42 U
Chloromethane (Methyl chloride)	ug/kg	220 U	220 U	210 U	210 U
cis-1,2-Dichloroethene	ug/kg	44 U	43 U	42 U	42 U
cis-1,3-Dichloropropene	ug/kg	44 U	43 U	42 U	42 U
Cyclohexane	ug/kg	1000 U	1000 U	1000 U	1000 U
Dibromochloromethane	ug/kg	44 U	43 U	42 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	87 U	87 U	85 U	85 U
Ethylbenzene	ug/kg	44 U	43 U	42 U	42 U
Isopropyl benzene	ug/kg	220 U	220 U	210 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB16-05**	**SB17-05**	**SB17-05**	**SB17-05**
Sample Identification		**SO-17360-120305-DCR-518**	**SO-17360-120305-DCR-519**	**SO-17360-120305-DCR-520**	**SO-17360-120305-DCR-521**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1000 U	1000 U	1000 U	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1000 U	1000 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	220 U	210 U	210 U
Methylene chloride	ug/kg	220 U	220 U	210 U	210 U
Styrene	ug/kg	44 U	43 U	42 U	42 U
Tetrachloroethene	ug/kg	44 U	43 U	42 U	42 U
Toluene	ug/kg	87 U	87 U	85 U	85 U
trans-1,2-Dichloroethene	ug/kg	44 U	43 U	42 U	42 U
trans-1,3-Dichloropropene	ug/kg	44 U	43 U	42 U	42 U
Trichloroethene	ug/kg	20 J	43 U	39 J	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	87 U	87 U	85 U	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	220 U	210 U	210 U
Vinyl chloride	ug/kg	87 U	87 U	85 U	85 U
Xylenes (total)	ug/kg	130 U	130 U	130 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB17-05	SB17-05	SB17-05	SB17-05
Sample Identification		SO-17360-120305-DCR-522	SO-17360-120305-DCR-523	SO-17360-120305-DCR-524	SO-17360-120305-DCR-525
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	40 U	46 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	88 U	80 U	93 U	90 U
1,1,2-Trichloroethane	ug/kg	44 U	40 U	46 U	45 U
1,1-Dichloroethane	ug/kg	44 U	40 U	46 U	45 U
1,1-Dichloroethene	ug/kg	44 U	40 U	46 U	45 U
1,2,4-Trichlorobenzene	ug/kg	220 U	200 U	230 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	200 U	230 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	200 U	230 U	230 U
1,2-Dichlorobenzene	ug/kg	88 U	80 U	93 U	90 U
1,2-Dichloroethane	ug/kg	44 U	40 U	46 U	45 U
1,2-Dichloropropane	ug/kg	44 U	40 U	46 U	45 U
1,3-Dichlorobenzene	ug/kg	88 U	80 U	93 U	90 U
1,4-Dichlorobenzene	ug/kg	88 U	80 U	93 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	600 U	700 U	680 U
2-Hexanone	ug/kg	2200 U	2000 U	2300 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2000 U	2300 U	2300 U
Acetone	ug/kg	660 U	600 U	700 U	680 U
Benzene	ug/kg	44 U	40 U	46 U	45 U
Bromodichloromethane	ug/kg	88 U	80 U	93 U	90 U
Bromoform	ug/kg	88 U	80 U	93 U	90 U
Bromomethane (Methyl bromide)	ug/kg	220 U	200 U	230 U	230 U
Carbon disulfide	ug/kg	220 U	200 U	230 U	230 U
Carbon tetrachloride	ug/kg	44 U	40 U	46 U	45 U
Chlorobenzene	ug/kg	44 U	40 U	46 U	45 U
Chloroethane	ug/kg	220 U	200 U	230 U	230 U
Chloroform (Trichloromethane)	ug/kg	44 U	40 U	46 U	45 U
Chloromethane (Methyl chloride)	ug/kg	220 U	200 U	230 U	230 U
cis-1,2-Dichloroethene	ug/kg	44 U	40 U	46 U	45 U
cis-1,3-Dichloropropene	ug/kg	44 U	40 U	46 U	45 U
Cyclohexane	ug/kg	1100 U	960 U	1100 U	1100 U
Dibromochloromethane	ug/kg	44 U	40 U	46 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	80 U	93 U	90 U
Ethylbenzene	ug/kg	44 U	40 U	46 U	45 U
Isopropyl benzene	ug/kg	220 U	200 U	230 U	230 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB17-05**	**SB17-05**	**SB17-05**	**SB17-05**
Sample Identification		**SO-17360-120305-DCR-522**	**SO-17360-120305-DCR-523**	**SO-17360-120305-DCR-524**	**SO-17360-120305-DCR-525**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	1100 U	960 U	1600	1100 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	1100 U	960 U	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	200 U	230 U	230 U
Methylene chloride	ug/kg	220 U	200 U	230 U	230 U
Styrene	ug/kg	44 U	40 U	46 U	45 U
Tetrachloroethene	ug/kg	44 U	40 U	46 U	45 U
Toluene	ug/kg	88 U	80 U	93 U	90 U
trans-1,2-Dichloroethene	ug/kg	44 U	40 U	46 U	45 U
trans-1,3-Dichloropropene	ug/kg	44 U	40 U	46 U	45 U
Trichloroethene	ug/kg	44 U	40 U	99	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	80 U	93 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	200 U	230 U	230 U
Vinyl chloride	ug/kg	88 U	80 U	93 U	90 U
Xylenes (total)	ug/kg	130 U	120 U	140 U	140 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Wyoming, Michigan

Sample Location		SB17-05	SB17-05	SB17-05	SB18-05
Sample Identification		SO-17360-120305-DCR-526	SO-17360-120305-DCR-527	SO-17360-120305-DCR-528	SO-17360-120305-DCR-529
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(14-16) ft BGS	(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	39 U	45 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	81 U	77 U	90 U	86 U
1,1,2-Trichloroethane	ug/kg	41 U	39 U	45 U	43 U
1,1-Dichloroethane	ug/kg	41 U	39 U	45 U	43 U
1,1-Dichloroethene	ug/kg	41 U	39 U	45 U	43 U
1,2,4-Trichlorobenzene	ug/kg	200 U	190 U	220 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	190 U	220 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	190 U	220 U	210 U
1,2-Dichlorobenzene	ug/kg	81 U	77 U	90 U	86 U
1,2-Dichloroethane	ug/kg	41 U	39 U	45 U	43 U
1,2-Dichloropropane	ug/kg	41 U	39 U	45 U	43 U
1,3-Dichlorobenzene	ug/kg	81 U	77 U	90 U	86 U
1,4-Dichlorobenzene	ug/kg	81 U	77 U	90 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	580 U	670 U	640 U
2-Hexanone	ug/kg	2000 U	1900 U	2200 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	1900 U	2200 U	2100 U
Acetone	ug/kg	610 U	580 U	670 UJ	640 UJ
Benzene	ug/kg	41 U	39 U	45 U	43 U
Bromodichloromethane	ug/kg	81 U	77 U	90 U	86 U
Bromoform	ug/kg	81 U	77 U	90 U	86 U
Bromomethane (Methyl bromide)	ug/kg	200 U	190 U	220 U	210 U
Carbon disulfide	ug/kg	200 U	190 U	220 U	210 U
Carbon tetrachloride	ug/kg	41 U	39 U	45 U	43 U
Chlorobenzene	ug/kg	41 U	39 U	45 U	43 U
Chloroethane	ug/kg	200 U	190 U	220 U	210 U
Chloroform (Trichloromethane)	ug/kg	41 U	39 U	45 U	43 U
Chloromethane (Methyl chloride)	ug/kg	200 U	190 U	220 U	210 U
cis-1,2-Dichloroethene	ug/kg	41 U	39 U	45 U	43 U
cis-1,3-Dichloropropene	ug/kg	41 U	39 U	45 U	43 U
Cyclohexane	ug/kg	980 U	930 U	1100 U	1000 U
Dibromochloromethane	ug/kg	41 U	39 U	45 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	81 U	77 U	90 U	86 U
Ethylbenzene	ug/kg	41 U	39 U	45 U	43 U
Isopropyl benzene	ug/kg	200 U	190 U	220 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB17-05**	**SB17-05**	**SB17-05**	**SB18-05**
Sample Identification		**SO-17360-120305-DCR-526**	**SO-17360-120305-DCR-527**	**SO-17360-120305-DCR-528**	**SO-17360-120305-DCR-529**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(14-16) ft BGS**	**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	980 U	930 U	1100 U	1000 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	980 U	930 U	1100 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	190 U	220 U	210 U
Methylene chloride	ug/kg	200 U	190 U	220 U	210 U
Styrene	ug/kg	41 U	39 U	45 U	43 U
Tetrachloroethene	ug/kg	41 U	39 U	45 U	43 U
Toluene	ug/kg	81 U	77 U	90 U	86 U
trans-1,2-Dichloroethene	ug/kg	41 U	39 U	45 U	43 U
trans-1,3-Dichloropropene	ug/kg	41 U	39 U	45 U	43 U
Trichloroethene	ug/kg	41 U	39 U	45 U	38 J
Trichlorofluoromethane (CFC-11)	ug/kg	81 U	77 U	90 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	190 U	220 U	210 U
Vinyl chloride	ug/kg	81 U	77 U	90 U	86 U
Xylenes (total)	ug/kg	120 U	120 U	130 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB18-05	SB18-05	SB18-05	SB18-05
Sample Identification		SO-17360-120305-DCR-530	SO-17360-120305-DCR-531	SO-17360-120305-DCR-532	SO-17360-120305-DCR-533
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	43 U	42 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	83 U	86 U	85 U	92 U
1,1,2-Trichloroethane	ug/kg	41 U	43 U	42 U	46 U
1,1-Dichloroethane	ug/kg	41 U	43 U	42 U	46 U
1,1-Dichloroethene	ug/kg	41 U	43 U	42 U	46 U
1,2,4-Trichlorobenzene	ug/kg	210 U	210 U	210 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	210 U	210 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	210 U	210 U	230 U
1,2-Dichlorobenzene	ug/kg	83 U	86 U	85 U	92 U
1,2-Dichloroethane	ug/kg	41 U	43 U	42 U	46 U
1,2-Dichloropropane	ug/kg	41 U	43 U	42 U	46 U
1,3-Dichlorobenzene	ug/kg	83 U	86 U	85 U	92 U
1,4-Dichlorobenzene	ug/kg	83 U	86 U	85 U	92 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	620 U	640 U	630 U	690 U
2-Hexanone	ug/kg	2100 U	2100 U	2100 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2100 U	2100 U	2300 U
Acetone	ug/kg	620 UJ	640 UJ	630 UJ	690 UJ
Benzene	ug/kg	41 U	43 U	42 U	46 U
Bromodichloromethane	ug/kg	83 U	86 U	85 U	92 U
Bromoform	ug/kg	83 U	86 U	85 U	92 U
Bromomethane (Methyl bromide)	ug/kg	210 U	210 U	210 U	230 U
Carbon disulfide	ug/kg	210 U	210 U	210 U	230 U
Carbon tetrachloride	ug/kg	41 U	43 U	42 U	46 U
Chlorobenzene	ug/kg	41 U	43 U	42 U	46 U
Chloroethane	ug/kg	210 U	210 U	210 U	230 U
Chloroform (Trichloromethane)	ug/kg	41 U	43 U	42 U	46 U
Chloromethane (Methyl chloride)	ug/kg	210 U	210 U	210 U	230 U
cis-1,2-Dichloroethene	ug/kg	41 U	43 U	42 U	46 U
cis-1,3-Dichloropropene	ug/kg	41 U	43 U	42 U	46 U
Cyclohexane	ug/kg	990 U	1000 U	1000 U	1100 U
Dibromochloromethane	ug/kg	41 U	43 U	42 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	83 U	86 U	85 U	92 U
Ethylbenzene	ug/kg	41 U	43 U	42 U	46 U
Isopropyl benzene	ug/kg	210 U	210 U	210 U	230 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB18-05**	**SB18-05**	**SB18-05**	**SB18-05**
Sample Identification		**SO-17360-120305-DCR-530**	**SO-17360-120305-DCR-531**	**SO-17360-120305-DCR-532**	**SO-17360-120305-DCR-533**
Sample Date		**12/3/2005**	**12/3/2005**	**12/3/2005**	**12/3/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**
Methyl acetate	ug/kg	990 U	1000 U	1000 U	1100 U
VOCs (continued)					
Methyl cyclohexane	ug/kg	990 U	1000 U	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	210 U	210 U	230 U
Methylene chloride	ug/kg	210 U	210 U	210 U	230 U
Styrene	ug/kg	41 U	43 U	42 U	46 U
Tetrachloroethene	ug/kg	41 U	43 U	42 U	46 U
Toluene	ug/kg	83 U	86 U	85 U	92 U
trans-1,2-Dichloroethene	ug/kg	41 U	43 U	42 U	46 U
trans-1,3-Dichloropropene	ug/kg	41 U	43 U	42 U	46 U
Trichloroethene	ug/kg	41 U	43 U	42 U	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	83 U	86 U	85 U	92 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	210 U	210 U	230 U
Vinyl chloride	ug/kg	83 U	86 U	85 U	92 U
Xylenes (total)	ug/kg	120 U	130 U	130 U	140 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB18-05	SB18-05	SB18-05	SB18-05
Sample Identification		SO-17360-120305-DCR-534	SO-17360-120305-DCR-535	SO-17360-120305-DCR-536	SO-17360-120305-DCR-537
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type			Duplicate		
Sample Depth		(10-12) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	46 U	42 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	81 U	91 U	84 U	86 U
1,1,2-Trichloroethane	ug/kg	41 U	46 U	42 U	43 U
1,1-Dichloroethane	ug/kg	41 U	46 U	42 U	43 U
1,1-Dichloroethene	ug/kg	41 U	46 U	42 U	43 U
1,2,4-Trichlorobenzene	ug/kg	200 U	230 U	210 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	230 U	210 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	230 U	210 U	210 U
1,2-Dichlorobenzene	ug/kg	81 U	91 U	84 U	86 U
1,2-Dichloroethane	ug/kg	41 U	46 U	42 U	43 U
1,2-Dichloropropane	ug/kg	41 U	46 U	42 U	43 U
1,3-Dichlorobenzene	ug/kg	81 U	91 U	84 U	86 U
1,4-Dichlorobenzene	ug/kg	81 U	91 U	84 U	86 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	690 U	630 U	640 U
2-Hexanone	ug/kg	2000 U	2300 U	2100 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2300 U	2100 U	2100 U
Acetone	ug/kg	610 UJ	690 UJ	630 UJ	640 UJ
Benzene	ug/kg	41 U	46 U	42 U	43 U
Bromodichloromethane	ug/kg	81 U	91 U	84 U	86 U
Bromoform	ug/kg	81 U	91 U	84 U	86 U
Bromomethane (Methyl bromide)	ug/kg	200 U	230 U	210 U	210 U
Carbon disulfide	ug/kg	200 U	230 U	210 U	210 U
Carbon tetrachloride	ug/kg	41 U	46 U	42 U	43 U
Chlorobenzene	ug/kg	41 U	46 U	42 U	43 U
Chloroethane	ug/kg	200 U	230 U	210 U	210 U
Chloroform (Trichloromethane)	ug/kg	41 U	46 U	42 U	43 U
Chloromethane (Methyl chloride)	ug/kg	200 U	230 U	210 U	210 U
cis-1,2-Dichloroethene	ug/kg	41 U	46 U	42 U	43 U
cis-1,3-Dichloropropene	ug/kg	41 U	46 U	42 U	43 U
Cyclohexane	ug/kg	970 U	1100 U	1000 U	1000 U
Dibromochloromethane	ug/kg	41 U	46 U	42 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	81 U	91 U	84 U	86 U
Ethylbenzene	ug/kg	41 U	46 U	42 U	43 U
Isopropyl benzene	ug/kg	200 U	230 U	210 U	210 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB18-05	SB18-05	SB18-05	SB18-05
Sample Identification		SO-17360-120305-DCR-534	SO-17360-120305-DCR-535	SO-17360-120305-DCR-536	SO-17360-120305-DCR-537
Sample Date		12/3/2005	12/3/2005	12/3/2005	12/3/2005
Sample Type			Duplicate		
Sample Depth		(10-12) ft BGS	(10-12) ft BGS	(12-14) ft BGS	(14-16) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25, AOI 4.1
Methyl acetate	ug/kg	970 U	1100 U	1000 U	74 J
VOCs (continued)					
Methyl cyclohexane	ug/kg	970 U	1100 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	230 U	210 U	210 U
Methylene chloride	ug/kg	200 U	230 U	210 U	210 U
Styrene	ug/kg	41 U	46 U	42 U	43 U
Tetrachloroethene	ug/kg	41 U	46 U	42 U	43 U
Toluene	ug/kg	81 U	91 U	84 U	86 U
trans-1,2-Dichloroethene	ug/kg	41 U	46 U	42 U	43 U
trans-1,3-Dichloropropene	ug/kg	41 U	46 U	42 U	43 U
Trichloroethene	ug/kg	41 U	46 U	42 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	81 U	91 U	84 U	86 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	230 U	210 U	210 U
Vinyl chloride	ug/kg	81 U	91 U	84 U	86 U
Xylenes (total)	ug/kg	120 U	140 U	130 U	130 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
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Sample Location		SB18-05	SB18-05	HA144-11	HA144-11	SB101-11
Sample Identification		SO-17360-120305-DCR-538	SO-17360-120305-DCR-539	S-17360-100311-EM-157	S-17360-100311-EM-158	SO-17360-021611-JY-069
Sample Date		12/3/2005	12/3/2005	10/3/2011	10/3/2011	2/16/2011
Sample Type						
Sample Depth		(16-18) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25, AOI 4.1	AOI 25, AOI 4.1	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	42 U	45 U	47 U	53 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	85 U	90 U	47 U	53 U	44 U
1,1,2-Trichloroethane	ug/kg	42 U	45 U	47 U	53 U	44 U
1,1-Dichloroethane	ug/kg	42 U	45 U	47 U	53 U	44 U
1,1-Dichloroethene	ug/kg	42 U	45 U	47 U	53 U	44 U
1,2,4-Trichlorobenzene	ug/kg	210 U	220 U	240 U	270 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	220 U	240 U	270 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	220 U	240 U	270 U	220 U
1,2-Dichlorobenzene	ug/kg	85 U	90 U	95 U	110 U	89 U
1,2-Dichloroethane	ug/kg	42 U	45 U	47 U	53 U	44 U
1,2-Dichloropropane	ug/kg	42 U	45 U	47 U	53 U	44 U
1,3-Dichlorobenzene	ug/kg	85 U	90 U	95 U	110 U	89 U
1,4-Dichlorobenzene	ug/kg	85 U	90 U	95 U	110 U	89 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	640 U	670 U	R	800 UJ	670 U
2-Hexanone	ug/kg	2100 U	2200 U	2400 U	2700 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2200 U	2400 U	2700 U	2200 U
Acetone	ug/kg	640 UJ	670 UJ	R	R	670 U
Benzene	ug/kg	42 U	45 U	47 U	53 U	44 U
Bromodichloromethane	ug/kg	85 U	90 U	95 U	110 U	89 U
Bromoform	ug/kg	85 U	90 U	95 UJ	110 UJ	89 U
Bromomethane (Methyl bromide)	ug/kg	210 U	220 U	240 U	270 U	220 U
Carbon disulfide	ug/kg	210 U	220 U	240 U	270 U	220 U
Carbon tetrachloride	ug/kg	42 U	45 U	47 U	53 U	44 U
Chlorobenzene	ug/kg	42 U	45 U	47 U	53 U	44 U
Chloroethane	ug/kg	210 U	220 U	240 U	270 U	220 U
Chloroform (Trichloromethane)	ug/kg	42 U	45 U	47 U	53 U	44 U
Chloromethane (Methyl chloride)	ug/kg	210 U	220 U	240 UJ	270 UJ	220 U
cis-1,2-Dichloroethene	ug/kg	42 U	45 U	47 U	53 U	44 U
cis-1,3-Dichloropropene	ug/kg	42 U	45 U	47 U	53 U	44 U
Cyclohexane	ug/kg	1000 U	1100 U	1100 U	1300 U	1100 U
Dibromochloromethane	ug/kg	42 U	45 U	47 U	53 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	85 U	90 U	95 U	110 U	89 U
Ethylbenzene	ug/kg	42 U	45 U	47 U	53 U	44 U
Isopropyl benzene	ug/kg	210 U	220 U	240 U	270 U	220 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Wyoming, Michigan

Sample Location		**SB18-05**	**SB18-05**	**HA144-11**	**HA144-11**	**SB101-11**
Sample Identification		**SO-17360-120305-DCR-538**	**SO-17360-120305-DCR-539**	**S-17360-100311-EM-157**	**S-17360-100311-EM-158**	**SO-17360-021611-JY-069**
Sample Date		**12/3/2005**	**12/3/2005**	**10/3/2011**	**10/3/2011**	**2/16/2011**
Sample Type						
Sample Depth		**(16-18) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(1-3) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 25, AOI 4.1**	**AOI 25, AOI 4.1**	**AOI 25**	**AOI 25**	**AOI 25**
Methyl acetate	ug/kg	1000 U	1100 U	1100 U	1300 U	1100 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1000 U	1100 U	1100 U	1300 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	220 U	240 U	270 U	220 U
Methylene chloride	ug/kg	210 U	220 U	240 U	270 U	220 U
Styrene	ug/kg	42 U	45 U	47 U	53 U	44 U
Tetrachloroethene	ug/kg	42 U	45 U	47 U	53 U	44 U
Toluene	ug/kg	85 U	90 U	95 U	110 U	89 U
trans-1,2-Dichloroethene	ug/kg	42 U	45 U	47 U	53 U	44 U
trans-1,3-Dichloropropene	ug/kg	42 U	45 U	47 U	53 U	44 U
Trichloroethene	ug/kg	42 U	45 U	**600[bc]**	**320[bc]**	42 J
Trichlorofluoromethane (CFC-11)	ug/kg	85 U	90 U	95 U	110 U	89 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	220 U	240 U	270 U	220 U
Vinyl chloride	ug/kg	85 U	90 U	38 U	43 U	35 U
Xylenes (total)	ug/kg	130 U	130 U	140 U	160 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB101-11	SB142-11	SB142-11	SB142-11	SB142-11
Sample Identification		SO-17360-021611-JY-070	S-17360-092911-EM-106	S-17360-092911-EM-107	S-17360-092911-EM-108	S-17360-092911-EM-109
Sample Date		2/16/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type				Duplicate		
Sample Depth		(20-22) ft BGS	(1-3) ft BGS	(1-3) ft BGS	(3-5) ft BGS	(5-7) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,1,2-Trichloroethane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,1-Dichloroethane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,1-Dichloroethene	ug/kg	44 U	46 U	45 U	45 U	46 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U	230 U	220 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U	230 U	220 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U	230 U	220 U	230 U
1,2-Dichlorobenzene	ug/kg	88 U	92 U	91 U	90 U	93 U
1,2-Dichloroethane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,2-Dichloropropane	ug/kg	44 U	46 U	45 U	45 U	46 U
1,3-Dichlorobenzene	ug/kg	88 U	92 U	91 U	90 U	93 U
1,4-Dichlorobenzene	ug/kg	88 U	92 U	91 U	90 U	93 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	51 J	R	R	52 J
2-Hexanone	ug/kg	2200 U	2300 U	2300 U	2200 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U	2300 U	2200 U	2300 U
Acetone	ug/kg	660 U	690 UJ	680 UJ	670 UJ	700 UJ
Benzene	ug/kg	44 U	46 U	45 U	45 U	46 U
Bromodichloromethane	ug/kg	88 U	92 U	91 U	90 U	93 U
Bromoform	ug/kg	88 U	92 U	91 U	90 U	93 U
Bromomethane (Methyl bromide)	ug/kg	220 U	230 U	230 U	220 U	230 U
Carbon disulfide	ug/kg	220 U	230 U	230 U	220 U	230 U
Carbon tetrachloride	ug/kg	44 U	46 U	45 U	45 U	46 U
Chlorobenzene	ug/kg	44 U	46 U	45 U	45 U	46 U
Chloroethane	ug/kg	220 U	230 U	230 U	220 U	230 U
Chloroform (Trichloromethane)	ug/kg	44 U	46 U	45 U	45 U	46 U
Chloromethane (Methyl chloride)	ug/kg	220 U	230 U	230 U	220 U	230 U
cis-1,2-Dichloroethene	ug/kg	44 U	46 U	45 U	45 U	46 U
cis-1,3-Dichloropropene	ug/kg	44 U	46 U	45 U	45 U	46 U
Cyclohexane	ug/kg	100 J	1100 U	1100 U	1100 U	1100 U
Dibromochloromethane	ug/kg	44 U	46 U	45 U	45 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	92 U	91 U	90 U	93 U
Ethylbenzene	ug/kg	9.7 J	46 U	45 U	45 U	46 U
Isopropyl benzene	ug/kg	220 U	230 U	230 U	220 U	230 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
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Sample Location		SB101-11	SB142-11	SB142-11	SB142-11	SB142-11
Sample Identification		SO-17360-021611-JY-070	S-17360-092911-EM-106	S-17360-092911-EM-107	S-17360-092911-EM-108	S-17360-092911-EM-109
Sample Date		2/16/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type				Duplicate		
Sample Depth		(20-22) ft BGS	(1-3) ft BGS	(1-3) ft BGS	(3-5) ft BGS	(5-7) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Methyl acetate	ug/kg	660 J	1100 U	1100 U	1100 U	1100 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	64 J	1100 U	1100 U	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U	230 U	220 U	230 U
Methylene chloride	ug/kg	220 U	230 U	230 U	220 U	230 U
Styrene	ug/kg	44 U	46 U	45 U	45 U	46 U
Tetrachloroethene	ug/kg	44 U	46 U	45 U	45 U	46 U
Toluene	ug/kg	63 J	92 U	91 U	90 U	93 U
trans-1,2-Dichloroethene	ug/kg	44 U	46 U	45 U	45 U	46 U
trans-1,3-Dichloropropene	ug/kg	44 U	46 U	45 U	45 U	46 U
Trichloroethene	ug/kg	**1800**[bce]	**150**[bc]	74	45 U	11 J
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	92 UJ	91 UJ	90 UJ	93 UJ
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U	230 U	220 U	230 U
Vinyl chloride	ug/kg	35 U	37 U	36 U	36 U	37 U
Xylenes (total)	ug/kg	79 J	140 U	140 U	130 U	140 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB142-11	SB142-11	SB142-11	SB142-11	SB142-11
Sample Identification		S-17360-092911-EM-110	S-17360-092911-EM-111	S-17360-092911-EM-112	S-17360-092911-EM-113	S-17360-092911-EM-114
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(7-9) ft BGS	(9-11) ft BGS	(11-13) ft BGS	(13-15) ft BGS	(15-17) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,1,2-Trichloroethane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,1-Dichloroethane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,1-Dichloroethene	ug/kg	42 U	46 U	47 U	43 U	43 U
1,2,4-Trichlorobenzene	ug/kg	210 U	230 U	240 U	210 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	230 U	240 U	210 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	230 U	240 U	210 U	220 U
1,2-Dichlorobenzene	ug/kg	84 U	91 U	94 U	85 U	87 U
1,2-Dichloroethane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,2-Dichloropropane	ug/kg	42 U	46 U	47 U	43 U	43 U
1,3-Dichlorobenzene	ug/kg	84 U	91 U	94 U	85 U	87 U
1,4-Dichlorobenzene	ug/kg	84 U	91 U	94 U	85 U	87 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	54 J	86 J	R	R	66 J
2-Hexanone	ug/kg	2100 U	2300 U	2400 U	2100 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2300 U	2400 U	2100 U	2200 U
Acetone	ug/kg	630 UJ	680 UJ	710 UJ	640 UJ	650 UJ
Benzene	ug/kg	42 U	46 U	47 U	43 U	43 U
Bromodichloromethane	ug/kg	84 U	91 U	94 U	85 U	87 U
Bromoform	ug/kg	84 U	91 U	94 U	85 U	87 U
Bromomethane (Methyl bromide)	ug/kg	210 U	230 U	240 U	210 U	220 U
Carbon disulfide	ug/kg	210 U	230 U	240 U	210 U	220 U
Carbon tetrachloride	ug/kg	42 U	46 U	47 U	43 U	43 U
Chlorobenzene	ug/kg	42 U	46 U	47 U	43 U	43 U
Chloroethane	ug/kg	210 U	230 U	240 U	210 U	220 U
Chloroform (Trichloromethane)	ug/kg	42 U	46 U	47 U	43 U	43 U
Chloromethane (Methyl chloride)	ug/kg	210 U	230 U	240 U	210 U	220 U
cis-1,2-Dichloroethene	ug/kg	42 U	46 U	47 U	43 U	43 U
cis-1,3-Dichloropropene	ug/kg	42 U	46 U	47 U	43 U	43 U
Cyclohexane	ug/kg	1000 U	1100 U	1100 U	1000 U	1000 U
Dibromochloromethane	ug/kg	42 U	46 U	47 U	43 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	84 U	91 U	94 U	85 U	87 U
Ethylbenzene	ug/kg	42 U	46 U	47 U	43 U	43 U
Isopropyl benzene	ug/kg	210 U	230 U	240 U	210 U	220 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB142-11	SB142-11	SB142-11	SB142-11	SB142-11
Sample Identification		S-17360-092911-EM-110	S-17360-092911-EM-111	S-17360-092911-EM-112	S-17360-092911-EM-113	S-17360-092911-EM-114
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(7-9) ft BGS	(9-11) ft BGS	(11-13) ft BGS	(13-15) ft BGS	(15-17) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Methyl acetate	ug/kg	1000 U	1100 U	1100 U	1000 U	1000 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1000 U	1100 U	1100 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	230 U	240 U	210 U	220 U
Methylene chloride	ug/kg	210 U	230 U	240 U	210 U	220 U
Styrene	ug/kg	42 U	46 U	47 U	43 U	43 U
Tetrachloroethene	ug/kg	42 U	46 U	47 U	43 U	43 U
Toluene	ug/kg	84 U	91 U	94 U	85 U	87 U
trans-1,2-Dichloroethene	ug/kg	42 U	46 U	47 U	43 U	43 U
trans-1,3-Dichloropropene	ug/kg	42 U	46 U	47 U	43 U	43 U
Trichloroethene	ug/kg	28 J	22 J	34 J	64	89
Trichlorofluoromethane (CFC-11)	ug/kg	84 UJ	91 UJ	94 UJ	85 UJ	87 UJ
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	230 U	240 U	210 U	220 U
Vinyl chloride	ug/kg	34 U	36 U	38 U	34 U	35 U
Xylenes (total)	ug/kg	130 U	140 U	140 U	130 U	130 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB142-11	SB143-11	SB143-11	SB143-11	SB143-11
Sample Identification		S-17360-092911-EM-115	S-17360-092911-EM-097	S-17360-092911-EM-098	S-17360-092911-EM-099	S-17360-092911-EM-100
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(17-19) ft BGS	(1-3) ft BGS	(3-5) ft BGS	(5-7) ft BGS	(7-9) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,1,2-Trichloroethane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,1-Dichloroethane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,1-Dichloroethene	ug/kg	42 U	44 U	44 U	45 U	45 U
1,2,4-Trichlorobenzene	ug/kg	210 U	220 U	220 U	220 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	220 U	220 U	220 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	220 U	220 U	220 U	220 U
1,2-Dichlorobenzene	ug/kg	85 U	88 U	88 U	90 U	89 U
1,2-Dichloroethane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,2-Dichloropropane	ug/kg	42 U	44 U	44 U	45 U	45 U
1,3-Dichlorobenzene	ug/kg	85 U	88 U	88 U	90 U	89 U
1,4-Dichlorobenzene	ug/kg	85 U	88 U	88 U	90 U	89 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	52 J	R	R	R	72 J
2-Hexanone	ug/kg	2100 U	2200 U	2200 U	2200 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	2200 U	2200 U	2200 U	2200 U
Acetone	ug/kg	640 UJ	R	R	R	R
Benzene	ug/kg	42 U	44 U	44 U	45 U	45 U
Bromodichloromethane	ug/kg	85 U	88 U	88 U	90 U	89 U
Bromoform	ug/kg	85 U	88 U	88 U	90 U	89 U
Bromomethane (Methyl bromide)	ug/kg	210 U	220 U	220 U	220 U	220 U
Carbon disulfide	ug/kg	210 U	220 U	220 U	220 U	220 U
Carbon tetrachloride	ug/kg	42 U	44 U	44 U	45 U	45 U
Chlorobenzene	ug/kg	42 U	44 U	44 U	45 U	45 U
Chloroethane	ug/kg	210 U	220 U	220 U	220 U	220 U
Chloroform (Trichloromethane)	ug/kg	42 U	44 U	44 U	45 U	45 U
Chloromethane (Methyl chloride)	ug/kg	210 U	220 U	220 U	220 U	220 U
cis-1,2-Dichloroethene	ug/kg	42 U	44 U	44 U	45 U	45 U
cis-1,3-Dichloropropene	ug/kg	42 U	44 U	44 U	45 U	45 U
Cyclohexane	ug/kg	1000 U	1100 U	1100 U	1100 U	1100 U
Dibromochloromethane	ug/kg	42 U	44 U	44 U	45 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	85 U	88 U	88 U	90 U	89 U
Ethylbenzene	ug/kg	42 U	44 U	44 U	45 U	45 U
Isopropyl benzene	ug/kg	210 U	220 U	220 U	220 U	220 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB142-11	SB143-11	SB143-11	SB143-11	SB143-11
Sample Identification		S-17360-092911-EM-115	S-17360-092911-EM-097	S-17360-092911-EM-098	S-17360-092911-EM-099	S-17360-092911-EM-100
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(17-19) ft BGS	(1-3) ft BGS	(3-5) ft BGS	(5-7) ft BGS	(7-9) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Methyl acetate	ug/kg	1000 U	1100 U	1100 U	1100 U	1100 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1000 U	1100 U	1100 U	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	220 U	220 U	220 U	220 U
Methylene chloride	ug/kg	210 U	220 U	220 U	220 U	220 U
Styrene	ug/kg	42 U	44 U	44 U	45 U	45 U
Tetrachloroethene	ug/kg	42 U	44 U	44 U	45 U	45 U
Toluene	ug/kg	85 U	88 U	88 U	90 U	89 U
trans-1,2-Dichloroethene	ug/kg	42 U	44 U	44 U	45 U	45 U
trans-1,3-Dichloropropene	ug/kg	42 U	44 U	44 U	45 U	45 U
Trichloroethene	ug/kg	56	**610[bc]**	61	59	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	85 UJ	88 U	88 U	90 U	89 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	220 U	220 U	220 U	220 U
Vinyl chloride	ug/kg	34 U	35 U	35 U	36 U	36 U
Xylenes (total)	ug/kg	130 U	130 U	130 U	130 U	130 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB143-11	SB143-11	SB143-11	SB143-11	SB143-11
Sample Identification		S-17360-092911-EM-101	S-17360-092911-EM-102	S-17360-092911-EM-103	S-17360-092911-EM-104	S-17360-092911-EM-105
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(9-11) ft BGS	(11-13) ft BGS	(13-15) ft BGS	(15-17) ft BGS	(17-19) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,1,2-Trichloroethane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,1-Dichloroethane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,1-Dichloroethene	ug/kg	48 U	47 U	47 U	42 U	47 U
1,2,4-Trichlorobenzene	ug/kg	240 U	240 U	20 J	210 U	240 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	240 U	240 U	210 U	240 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	240 U	240 U	210 U	240 U
1,2-Dichlorobenzene	ug/kg	96 U	94 U	94 U	85 U	94 U
1,2-Dichloroethane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,2-Dichloropropane	ug/kg	48 U	47 U	47 U	42 U	47 U
1,3-Dichlorobenzene	ug/kg	96 U	94 U	94 U	85 U	94 U
1,4-Dichlorobenzene	ug/kg	96 U	94 U	94 U	85 U	94 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	R	51 J	R	69 J	R
2-Hexanone	ug/kg	2400 U	2400 U	2400 U	2100 U	2400 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	2400 U	2400 U	2100 U	2400 U
Acetone	ug/kg	R	R	710 UJ	640 UJ	710 UJ
Benzene	ug/kg	48 U	47 U	47 U	42 U	47 U
Bromodichloromethane	ug/kg	96 U	94 U	94 U	85 U	94 U
Bromoform	ug/kg	96 U	94 U	94 U	85 U	94 U
Bromomethane (Methyl bromide)	ug/kg	240 U	240 U	240 U	210 U	240 U
Carbon disulfide	ug/kg	240 U	240 U	240 U	210 U	240 U
Carbon tetrachloride	ug/kg	48 U	47 U	47 U	42 U	47 U
Chlorobenzene	ug/kg	48 U	47 U	47 U	42 U	47 U
Chloroethane	ug/kg	240 U	240 U	240 U	210 U	240 U
Chloroform (Trichloromethane)	ug/kg	48 U	47 U	47 U	42 U	47 U
Chloromethane (Methyl chloride)	ug/kg	240 U	240 U	240 U	210 U	240 U
cis-1,2-Dichloroethene	ug/kg	48 U	47 U	47 U	42 U	47 U
cis-1,3-Dichloropropene	ug/kg	48 U	47 U	47 U	42 U	47 U
Cyclohexane	ug/kg	1100 U	1100 U	1100 U	1000 U	1100 U
Dibromochloromethane	ug/kg	48 U	47 U	47 U	42 U	47 U
Dichlorodifluoromethane (CFC-12)	ug/kg	96 U	94 U	94 U	85 U	94 U
Ethylbenzene	ug/kg	48 U	47 U	47 U	42 U	47 U
Isopropyl benzene	ug/kg	240 U	240 U	240 U	210 U	240 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB143-11	SB143-11	SB143-11	SB143-11	SB143-11
Sample Identification		S-17360-092911-EM-101	S-17360-092911-EM-102	S-17360-092911-EM-103	S-17360-092911-EM-104	S-17360-092911-EM-105
Sample Date		9/29/2011	9/29/2011	9/29/2011	9/29/2011	9/29/2011
Sample Type						
Sample Depth		(9-11) ft BGS	(11-13) ft BGS	(13-15) ft BGS	(15-17) ft BGS	(17-19) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Methyl acetate	ug/kg	1100 U	1100 U	1100 U	1000 U	1100 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	1100 U	1100 U	24 J	1000 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	240 U	240 U	240 U	210 U	240 U
Methylene chloride	ug/kg	240 U	240 U	240 U	210 U	240 U
Styrene	ug/kg	48 U	47 U	47 U	42 U	47 U
Tetrachloroethene	ug/kg	48 U	47 U	47 U	42 U	47 U
Toluene	ug/kg	96 U	94 U	94 U	85 U	94 U
trans-1,2-Dichloroethene	ug/kg	48 U	47 U	47 U	42 U	47 U
trans-1,3-Dichloropropene	ug/kg	48 U	47 U	47 U	42 U	47 U
Trichloroethene	ug/kg	48 U	47 U	78	71	59
Trichlorofluoromethane (CFC-11)	ug/kg	96 U	94 U	94 UJ	85 UJ	94 UJ
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	240 U	240 U	210 U	240 U
Vinyl chloride	ug/kg	38 U	38 U	38 U	34 U	38 U
Xylenes (total)	ug/kg	140 U	140 U	140 U	130 U	140 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB326-14	SB326-14	SB327-14	SB327-14	SB327-14
Sample Identification		SO-17360-120514-EB-004	SO-17360-120514-EB-005	SO-17360-120514-EB-001	SO-17360-120514-EB-002	SO-17360-120514-EB-003
Sample Date		12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
AOI		AOI 25	AOI 25	AOI 25	AOI 25	AOI 25
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,1,2-Trichloroethane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,1-Dichloroethane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,1-Dichloroethene	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2,4-Trichlorobenzene	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2-Dichlorobenzene	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2-Dichloroethane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,2-Dichloropropane	ug/kg	38 U	36 U	36 U	39 U	37 U
1,3-Dichlorobenzene	ug/kg	38 U	36 U	36 U	39 U	37 U
1,4-Dichlorobenzene	ug/kg	38 U	36 U	36 U	39 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	240 U	240 U	260 U	250 U
2-Hexanone	ug/kg	38 U	36 U	36 U	39 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	38 U	36 U	36 U	39 U	37 U
Acetone	ug/kg	130 U	120 U	120 U	130 U	120 U
Benzene	ug/kg	38 U	36 U	48	39 U	37 U
Bromodichloromethane	ug/kg	38 U	36 U	36 U	39 U	37 U
Bromoform	ug/kg	38 U	36 U	36 U	39 U	37 U
Bromomethane (Methyl bromide)	ug/kg	94 U	91 U	89 U	97 U	93 U
Carbon disulfide	ug/kg	38 U	36 U	36 U	39 U	37 U
Carbon tetrachloride	ug/kg	38 U	36 U	36 U	39 U	37 U
Chlorobenzene	ug/kg	38 U	36 U	36 U	39 U	37 U
Chloroethane	ug/kg	130 U	120 U	120 U	130 U	120 U
Chloroform (Trichloromethane)	ug/kg	38 U	36 U	36 U	39 U	37 U
Chloromethane (Methyl chloride)	ug/kg	130 U	120 U	120 U	130 U	120 U
cis-1,2-Dichloroethene	ug/kg	38 U	36 U	36 U	39 U	37 U
cis-1,3-Dichloropropene	ug/kg	38 U	36 U	36 U	39 U	37 U
Cyclohexane	ug/kg	38 U	36 U	120	89	37 U
Dibromochloromethane	ug/kg	38 U	36 U	36 U	39 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	38 U	36 U	36 U	39 U	37 U
Ethylbenzene	ug/kg	38 U	36 U	23 J	16 J	37 U
Isopropyl benzene	ug/kg	38 U	36 U	68	63	37 U

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB326-14**	**SB326-14**	**SB327-14**	**SB327-14**	**SB327-14**
Sample Identification		**SO-17360-120514-EB-004**	**SO-17360-120514-EB-005**	**SO-17360-120514-EB-001**	**SO-17360-120514-EB-002**	**SO-17360-120514-EB-003**
Sample Date		**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**
Sample Type					**Duplicate**	
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(0-2) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**	**AOI 25**
Methyl acetate	ug/kg	250 U	240 U	240 U	260 U	250 U
VOCs (continued)						
Methyl cyclohexane	ug/kg	38 U	36 U	390	220	37 U
Methyl tert butyl ether (MTBE)	ug/kg	38 U	36 U	36 U	39 U	37 U
Methylene chloride	ug/kg	38 U	36 U	36 U	39 U	37 U
Styrene	ug/kg	38 U	36 U	36 U	39 U	37 U
Tetrachloroethene	ug/kg	38 U	36 U	36 U	39 U	37 U
Toluene	ug/kg	33 J	36 U	120	45	17 J
trans-1,2-Dichloroethene	ug/kg	38 U	36 U	36 U	39 U	37 U
trans-1,3-Dichloropropene	ug/kg	38 U	36 U	36 U	39 U	37 U
Trichloroethene	ug/kg	**730**[bc]	**1700**[bce]	**12000 J**[bcdefg]	**3200 J**[bcef]	**390**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	38 U	36 U	36 U	39 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	38 U	36 U	36 U	39 U	37 U
Vinyl chloride	ug/kg	38 U	36 U	36 U	39 U	37 U
Xylenes (total)	ug/kg	90 J	110 U	190	140	110 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB328-14	SB328-14
Sample Identification		SO-17360-120514-EB-006	SO-17360-120514-EB-007
Sample Date		12/5/2014	12/5/2014
Sample Type			
Sample Depth		(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	UNKNOWN	UNKNOWN
AOI		AOI 25	AOI 25
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	38 U	39 U
1,1,2,2-Tetrachloroethane	ug/kg	38 U	39 U
1,1,2-Trichloroethane	ug/kg	38 U	39 U
1,1-Dichloroethane	ug/kg	38 U	39 U
1,1-Dichloroethene	ug/kg	38 U	39 U
1,2,4-Trichlorobenzene	ug/kg	38 U	39 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	38 U	39 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	38 U	39 U
1,2-Dichlorobenzene	ug/kg	38 U	39 U
1,2-Dichloroethane	ug/kg	38 U	39 U
1,2-Dichloropropane	ug/kg	38 U	39 U
1,3-Dichlorobenzene	ug/kg	38 U	39 U
1,4-Dichlorobenzene	ug/kg	38 U	39 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	260 U
2-Hexanone	ug/kg	38 U	39 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	38 U	39 U
Acetone	ug/kg	130 U	130 U
Benzene	ug/kg	38 U	22 J
Bromodichloromethane	ug/kg	38 U	39 U
Bromoform	ug/kg	38 U	39 U
Bromomethane (Methyl bromide)	ug/kg	95 U	98 U
Carbon disulfide	ug/kg	38 U	39 U
Carbon tetrachloride	ug/kg	38 U	39 U
Chlorobenzene	ug/kg	38 U	39 U
Chloroethane	ug/kg	130 U	130 U
Chloroform (Trichloromethane)	ug/kg	38 U	39 U
Chloromethane (Methyl chloride)	ug/kg	130 U	130 U
cis-1,2-Dichloroethene	ug/kg	38 U	39 U
cis-1,3-Dichloropropene	ug/kg	38 U	39 U
Cyclohexane	ug/kg	38 U	77
Dibromochloromethane	ug/kg	38 U	39 U
Dichlorodifluoromethane (CFC-12)	ug/kg	38 U	39 U
Ethylbenzene	ug/kg	38 U	39 U
Isopropyl benzene	ug/kg	38 U	39 U

Table 3.29

Soil Sample Analytical Results - AOI 25 – Former Maintenance Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB328-14**	**SB328-14**
Sample Identification		**SO-17360-120514-EB-006**	**SO-17360-120514-EB-007**
Sample Date		**12/5/2014**	**12/5/2014**
Sample Type			
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**UNKNOWN**	**UNKNOWN**
AOI		**AOI 25**	**AOI 25**
Methyl acetate	ug/kg	250 U	260 U
VOCs (continued)			
Methyl cyclohexane	ug/kg	38 U	180
Methyl tert butyl ether (MTBE)	ug/kg	38 U	39 U
Methylene chloride	ug/kg	38 U	39 U
Styrene	ug/kg	38 U	39 U
Tetrachloroethene	ug/kg	38 U	39 U
Toluene	ug/kg	38 U	44
trans-1,2-Dichloroethene	ug/kg	38 U	39 U
trans-1,3-Dichloropropene	ug/kg	38 U	39 U
Trichloroethene	ug/kg	94	39 U
Trichlorofluoromethane (CFC-11)	ug/kg	38 U	39 U
Trifluorotrichloroethane (Freon 113)	ug/kg	38 U	39 U
Vinyl chloride	ug/kg	38 U	39 U
Xylenes (total)	ug/kg	110 U	120 U

Table 3.30.1

Soil Sample Analytical Results - AOI 26.1 – Shell Cooler After Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB102-11**	**SB102-11**
Sample Identification		**SO-17360-021711-DR-075**	**SO-17360-021711-DR-076**
Sample Date		**2/17/2011**	**2/17/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(19-21) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.1**	**AOI 26.1**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	42 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	38 U
1,1,2-Trichloroethane	ug/kg	42 U	38 U
1,1-Dichloroethane	ug/kg	42 U	38 U
1,1-Dichloroethene	ug/kg	42 U	38 U
1,2,4-Trichlorobenzene	ug/kg	210 U	190 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	190 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	190 U
1,2-Dichlorobenzene	ug/kg	84 U	77 U
1,2-Dichloroethane	ug/kg	42 U	38 U
1,2-Dichloropropane	ug/kg	42 U	38 U
1,3-Dichlorobenzene	ug/kg	84 U	77 U
1,4-Dichlorobenzene	ug/kg	84 U	77 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U	570 U
2-Hexanone	ug/kg	2100 U	1900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	1900 U
Acetone	ug/kg	630 U	570 U
Benzene	ug/kg	42 U	38 U
Bromodichloromethane	ug/kg	84 U	77 U
Bromoform	ug/kg	84 U	77 U
Bromomethane (Methyl bromide)	ug/kg	210 U	190 U
Carbon disulfide	ug/kg	210 U	190 U
Carbon tetrachloride	ug/kg	42 U	38 U
Chlorobenzene	ug/kg	42 U	38 U
Chloroethane	ug/kg	210 U	190 U
Chloroform (Trichloromethane)	ug/kg	42 U	38 U
Chloromethane (Methyl chloride)	ug/kg	210 U	190 U
cis-1,2-Dichloroethene	ug/kg	42 U	38 U
cis-1,3-Dichloropropene	ug/kg	42 U	38 U
Cyclohexane	ug/kg	1000 U	920 U
Dibromochloromethane	ug/kg	42 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	84 U	77 U
Ethylbenzene	ug/kg	42 U	38 U

Soil Sample Analytical Results - AOI 26.1 – Shell Cooler After Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB102-11	SB102-11
Sample Identification		SO-17360-021711-DR-075	SO-17360-021711-DR-076
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(19-21) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 26.1	AOI 26.1
Isopropyl benzene	ug/kg	210 U	190 U
Methyl acetate	ug/kg	1000 U	920 U
Methyl cyclohexane	ug/kg	1000 U	920 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	190 U
Methylene chloride	ug/kg	210 U	190 U
Styrene	ug/kg	42 U	38 U
Tetrachloroethene	ug/kg	42 U	38 U
Toluene	ug/kg	84 U	77 U
trans-1,2-Dichloroethene	ug/kg	42 U	38 U
trans-1,3-Dichloropropene	ug/kg	42 U	38 U
Trichloroethene	ug/kg	42 U	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	84 U	77 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	190 U
Vinyl chloride	ug/kg	33 U	31 U
Xylenes (total)	ug/kg	130 U	110 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	270 U
Acenaphthene	ug/kg	270 U	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	270 U	270 U
Benzo(a)anthracene	ug/kg	270 U	7.1 J
Benzo(a)pyrene	ug/kg	270 U	270 U
Benzo(b)fluoranthene	ug/kg	270 U	6.9 J
Benzo(g,h,i)perylene	ug/kg	270 U	270 U
Benzo(k)fluoranthene	ug/kg	270 U	270 U
Chrysene	ug/kg	270 U	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U
Fluoranthene	ug/kg	7.9 J	20 J
Fluorene	ug/kg	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U
Naphthalene	ug/kg	270 U	270 U
Phenanthrene	ug/kg	270 U	21 J
Pyrene	ug/kg	270 U	15 J

Table 3.30.1

Soil Sample Analytical Results - AOI 26.1 – Shell Cooler After Degreaser
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB102-11	SB102-11
Sample Identification		SO-17360-021711-DR-075	SO-17360-021711-DR-076
Sample Date		2/17/2011	2/17/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(19-21) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 26.1	AOI 26.1
Metals			
Antimony	ug/kg	160 UJ	160 UJ
Arsenic	ug/kg	920	1200
Barium	ug/kg	28600	3800
Beryllium	ug/kg	160 U	160 U
Cadmium	ug/kg	81 U	81 U
Chromium	ug/kg	4700	3200
Cobalt	ug/kg	1800	1400
Copper	ug/kg	2100 J	2800 J
Lead	ug/kg	2700	1700
Manganese	ug/kg	160000 J	83200 J
Mercury	ug/kg	41 U	41 U
Nickel	ug/kg	3900	2900
Selenium	ug/kg	110 J	100 J
Silver	ug/kg	81 U	81 U
Thallium	ug/kg	81 U	81 U
Vanadium	ug/kg	7000	4400
Zinc	ug/kg	11200	5700
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U
Total PCBs	ug/kg	0	0

Table 3.30.2

Soil Sample Analytical Results - AOI 26.2 – Former Degreaser (U 46)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB103-11**	**SB103-11**	**SB103-11**
Sample Identification		**SO-17360-021711-DR-082**	**SO-17360-021711-DR-083**	**SO-17360-021711-DR-084**
Sample Date		**2/17/2011**	**2/17/2011**	**2/17/2011**
Sample Type				
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.2**	**AOI 26.2**	**AOI 26.2**
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	43 U	59 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	43 U	59 U	40 U
1,1,2-Trichloroethane	ug/kg	43 U	59 U	40 U
1,1-Dichloroethane	ug/kg	43 U	59 U	40 U
1,1-Dichloroethene	ug/kg	43 U	59 U	40 U
1,2,4-Trichlorobenzene	ug/kg	210 U	300 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U	300 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U	300 U	200 U
1,2-Dichlorobenzene	ug/kg	85 U	120 U	81 U
1,2-Dichloroethane	ug/kg	43 U	59 U	40 U
1,2-Dichloropropane	ug/kg	43 U	59 U	40 U
1,3-Dichlorobenzene	ug/kg	85 U	120 U	81 U
1,4-Dichlorobenzene	ug/kg	85 U	120 U	81 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	82 J	890 U	610 U
2-Hexanone	ug/kg	2100 U	3000 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U	3000 U	2000 U
Acetone	ug/kg	640 U	890 U	610 U
Benzene	ug/kg	43 U	59 U	40 U
Bromodichloromethane	ug/kg	85 U	120 U	81 U
Bromoform	ug/kg	85 U	120 U	81 U
Bromomethane (Methyl bromide)	ug/kg	210 U	300 U	200 U
Carbon disulfide	ug/kg	210 U	300 U	200 U
Carbon tetrachloride	ug/kg	43 U	59 U	40 U
Chlorobenzene	ug/kg	43 U	59 U	40 U
Chloroethane	ug/kg	210 U	300 U	200 U
Chloroform (Trichloromethane)	ug/kg	43 U	59 U	40 U
Chloromethane (Methyl chloride)	ug/kg	210 U	300 U	200 U
cis-1,2-Dichloroethene	ug/kg	43 U	59 U	40 U
cis-1,3-Dichloropropene	ug/kg	43 U	59 U	40 U
Cyclohexane	ug/kg	1000 U	64 J	970 U
Dibromochloromethane	ug/kg	43 U	59 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	85 U	120 U	81 U
Ethylbenzene	ug/kg	43 U	8.6 J	40 U

Table 3.30.2

Soil Sample Analytical Results - AOI 26.2 – Former Degreaser (U 46)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB103-11	SB103-11	SB103-11
Sample Identification		SO-17360-021711-DR-082	SO-17360-021711-DR-083	SO-17360-021711-DR-084
Sample Date		2/17/2011	2/17/2011	2/17/2011
Sample Type				
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(18-20) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 26.2	AOI 26.2	AOI 26.2
Isopropyl benzene	ug/kg	210 U	11 J	200 U
Methyl acetate	ug/kg	1000 U	140 J	970 U
Methyl cyclohexane	ug/kg	1000 U	220 J	970 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U	300 U	200 U
Methylene chloride	ug/kg	210 U	300 U	200 U
Styrene	ug/kg	43 U	59 U	40 U
Tetrachloroethene	ug/kg	43 U	29 J	40 U
Toluene	ug/kg	85 U	37 J	81 U
trans-1,2-Dichloroethene	ug/kg	43 U	59 U	40 U
trans-1,3-Dichloropropene	ug/kg	43 U	59 U	40 U
Trichloroethene	ug/kg	38 J	**300**[bc]	40 U
Trichlorofluoromethane (CFC-11)	ug/kg	85 U	120 U	81 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U	300 U	200 U
Vinyl chloride	ug/kg	34 U	47 U	32 U
Xylenes (total)	ug/kg	130 U	110 J	120 U
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	11 J	37 J	270 U
Acenaphthene	ug/kg	270 U	1400 U	270 U
Acenaphthylene	ug/kg	270 U	1400 U	270 U
Anthracene	ug/kg	270 U	70 J	270 U
Benzo(a)anthracene	ug/kg	14 J	270 J	270 U
Benzo(a)pyrene	ug/kg	12 J	260 J	270 U
Benzo(b)fluoranthene	ug/kg	21 J	440 J	270 U
Benzo(g,h,i)perylene	ug/kg	9.4 J	240 J	270 U
Benzo(k)fluoranthene	ug/kg	11 J	180 J	270 U
Chrysene	ug/kg	17 J	390 J	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	61 J	270 U
Fluoranthene	ug/kg	25 J	640 J	270 U
Fluorene	ug/kg	270 U	1400 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	8.0 J	190 J	270 U
Naphthalene	ug/kg	270 U	1400 U	270 U
Phenanthrene	ug/kg	12 J	300 J	270 U
Pyrene	ug/kg	20 J	450 J	270 U

Table 3.30.2

Soil Sample Analytical Results - AOI 26.2 – Former Degreaser (U 46)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB103-11**	**SB103-11**	**SB103-11**
Sample Identification		**SO-17360-021711-DR-082**	**SO-17360-021711-DR-083**	**SO-17360-021711-DR-084**
Sample Date		**2/17/2011**	**2/17/2011**	**2/17/2011**
Sample Type				
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(18-20) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.2**	**AOI 26.2**	**AOI 26.2**
Metals				
Antimony	ug/kg	39 J	590 J	160 UJ
Arsenic	ug/kg	1400	2400	1800
Barium	ug/kg	13800	42000	6300
Beryllium	ug/kg	170 U	170 U	160 U
Cadmium	ug/kg	83 U	170	82 U
Chromium	ug/kg	4200	9400	4200
Cobalt	ug/kg	2100	3200	2300
Copper	ug/kg	4200 J	19800 J	5700 J
Lead	ug/kg	4300	27300	2600
Manganese	ug/kg	128000 J	144000 J	128000 J
Mercury	ug/kg	41 U	43 U	41 U
Nickel	ug/kg	4100	8100	4200
Selenium	ug/kg	150 J	270	110 J
Silver	ug/kg	83 U	52 J	82 U
Thallium	ug/kg	83 U	85 U	82 U
Vanadium	ug/kg	6700	10500	6300
Zinc	ug/kg	11400	36400	11300
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	270 U	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	280 U	270 U
Total PCBs	ug/kg	0	0	0

Table 3.30.3

Soil Sample Analytical Results - AOI 26.3 – Former Degreaser (RS 9)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB104-11**	**SB104-11**
Sample Identification		**SO-17360-021611-JY-063**	**SO-17360-021611-JY-064**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.3**	**AOI 26.3**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	40 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	40 U	45 U
1,1,2-Trichloroethane	ug/kg	40 U	45 U
1,1-Dichloroethane	ug/kg	40 U	45 U
1,1-Dichloroethene	ug/kg	40 U	45 U
1,2,4-Trichlorobenzene	ug/kg	200 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	220 U
1,2-Dichlorobenzene	ug/kg	81 U	90 U
1,2-Dichloroethane	ug/kg	40 U	45 U
1,2-Dichloropropane	ug/kg	40 U	45 U
1,3-Dichlorobenzene	ug/kg	81 U	90 U
1,4-Dichlorobenzene	ug/kg	81 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	670 U
2-Hexanone	ug/kg	2000 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2200 U
Acetone	ug/kg	610 U	670 U
Benzene	ug/kg	40 U	45 U
Bromodichloromethane	ug/kg	81 U	90 U
Bromoform	ug/kg	81 U	90 U
Bromomethane (Methyl bromide)	ug/kg	200 U	220 U
Carbon disulfide	ug/kg	200 U	220 U
Carbon tetrachloride	ug/kg	40 U	45 U
Chlorobenzene	ug/kg	40 U	45 U
Chloroethane	ug/kg	200 U	220 U
Chloroform (Trichloromethane)	ug/kg	40 U	45 U
Chloromethane (Methyl chloride)	ug/kg	200 U	220 U
cis-1,2-Dichloroethene	ug/kg	40 U	45 U
cis-1,3-Dichloropropene	ug/kg	40 U	45 U
Cyclohexane	ug/kg	970 U	1100 U
Dibromochloromethane	ug/kg	40 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	81 U	90 U
Ethylbenzene	ug/kg	40 U	45 U

Table 3.30.3

Soil Sample Analytical Results - AOI 26.3 – Former Degreaser (RS 9)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB104-11**	**SB104-11**
Sample Identification		**SO-17360-021611-JY-063**	**SO-17360-021611-JY-064**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.3**	**AOI 26.3**
Isopropyl benzene	ug/kg	200 U	220 U
Methyl acetate	ug/kg	970 U	1100 U
Methyl cyclohexane	ug/kg	970 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	220 U
Methylene chloride	ug/kg	200 U	220 U
Styrene	ug/kg	40 U	45 U
Tetrachloroethene	ug/kg	40 U	45 U
Toluene	ug/kg	81 U	90 U
trans-1,2-Dichloroethene	ug/kg	40 U	45 U
trans-1,3-Dichloropropene	ug/kg	40 U	45 U
Trichloroethene	ug/kg	40 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	81 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	220 U
Vinyl chloride	ug/kg	32 U	36 U
Xylenes (total)	ug/kg	120 U	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	2700 U
Acenaphthene	ug/kg	270 U	2700 U
Acenaphthylene	ug/kg	270 U	2700 U
Anthracene	ug/kg	270 U	2700 U
Benzo(a)anthracene	ug/kg	270 U	2700 U
Benzo(a)pyrene	ug/kg	270 U	2700 U
Benzo(b)fluoranthene	ug/kg	270 U	2700 U
Benzo(g,h,i)perylene	ug/kg	270 U	2700 U
Benzo(k)fluoranthene	ug/kg	270 U	2700 U
Chrysene	ug/kg	270 U	2700 U
Dibenz(a,h)anthracene	ug/kg	270 U	2700 U
Fluoranthene	ug/kg	270 U	2700 U
Fluorene	ug/kg	270 U	2700 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	2700 U
Naphthalene	ug/kg	270 U	2700 U
Phenanthrene	ug/kg	270 U	2700 U
Pyrene	ug/kg	270 U	2700 U

Table 3.30.3

Soil Sample Analytical Results - AOI 26.3 – Former Degreaser (RS 9)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB104-11**	**SB104-11**
Sample Identification		**SO-17360-021611-JY-063**	**SO-17360-021611-JY-064**
Sample Date		**2/16/2011**	**2/16/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.3**	**AOI 26.3**
Metals			
Antimony	ug/kg	30 J	170 UJ
Arsenic	ug/kg	1200	2600
Barium	ug/kg	42400	12000
Beryllium	ug/kg	160 U	170 U
Cadmium	ug/kg	82 U	83 U
Chromium	ug/kg	6400	9900
Cobalt	ug/kg	2700	3900
Copper	ug/kg	2800 J	9400 J
Lead	ug/kg	4900	3500
Manganese	ug/kg	313000 J	302000 J
Mercury	ug/kg	41 U	42 U
Nickel	ug/kg	5600	8700
Selenium	ug/kg	130 J	150 J
Silver	ug/kg	82 U	83 U
Thallium	ug/kg	82 U	83 U
Vanadium	ug/kg	9600	12600
Zinc	ug/kg	15800	17500
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	550 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	550 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	550 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	550 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	550 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	550 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	550 U
Total PCBs	ug/kg	0	0

Table 3.30.4

Soil Sample Analytical Results - AOI 26.4 – Former Degreaser (O 44)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB105-11**	**SB105-11**
Sample Identification		**SO-17360-022211-DR-111**	**SO-17360-022211-DR-112**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17.5-19.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.4**	**AOI 26.4**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	50 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	50 U	45 U
1,1,2-Trichloroethane	ug/kg	50 U	45 U
1,1-Dichloroethane	ug/kg	50 U	45 U
1,1-Dichloroethene	ug/kg	50 U	45 U
1,2,4-Trichlorobenzene	ug/kg	250 U	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	250 U	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	250 U	220 U
1,2-Dichlorobenzene	ug/kg	100 U	90 U
1,2-Dichloroethane	ug/kg	50 U	45 U
1,2-Dichloropropane	ug/kg	50 U	45 U
1,3-Dichlorobenzene	ug/kg	100 U	90 U
1,4-Dichlorobenzene	ug/kg	100 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	750 U	670 U
2-Hexanone	ug/kg	2500 U	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2500 U	2200 U
Acetone	ug/kg	750 U	670 U
Benzene	ug/kg	50 U	45 U
Bromodichloromethane	ug/kg	100 U	90 U
Bromoform	ug/kg	100 U	90 U
Bromomethane (Methyl bromide)	ug/kg	250 UJ	220 UJ
Carbon disulfide	ug/kg	250 U	220 U
Carbon tetrachloride	ug/kg	50 U	45 U
Chlorobenzene	ug/kg	50 U	45 U
Chloroethane	ug/kg	250 U	220 U
Chloroform (Trichloromethane)	ug/kg	50 U	45 U
Chloromethane (Methyl chloride)	ug/kg	250 UJ	220 UJ
cis-1,2-Dichloroethene	ug/kg	50 U	45 U
cis-1,3-Dichloropropene	ug/kg	50 U	45 U
Cyclohexane	ug/kg	1200 U	1100 U
Dibromochloromethane	ug/kg	50 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	100 U	90 U
Ethylbenzene	ug/kg	50 U	45 U

Soil Sample Analytical Results - AOI 26.4 – Former Degreaser (O 44)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB105-11**	**SB105-11**
Sample Identification		**SO-17360-022211-DR-111**	**SO-17360-022211-DR-112**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17.5-19.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.4**	**AOI 26.4**
Isopropyl benzene	ug/kg	250 U	220 U
Methyl acetate	ug/kg	71 J	1100 U
Methyl cyclohexane	ug/kg	1200 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	250 U	220 U
Methylene chloride	ug/kg	250 U	220 U
Styrene	ug/kg	50 U	45 U
Tetrachloroethene	ug/kg	50 U	45 U
Toluene	ug/kg	25 J	90 U
trans-1,2-Dichloroethene	ug/kg	50 U	45 U
trans-1,3-Dichloropropene	ug/kg	50 U	45 U
Trichloroethene	ug/kg	15 J	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	100 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	250 U	220 U
Vinyl chloride	ug/kg	40 U	36 U
Xylenes (total)	ug/kg	26 J	130 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	40 J	270 U
Acenaphthene	ug/kg	15 J	270 U
Acenaphthylene	ug/kg	280 U	270 U
Anthracene	ug/kg	45 J	270 U
Benzo(a)anthracene	ug/kg	120 J	270 U
Benzo(a)pyrene	ug/kg	130 J	270 U
Benzo(b)fluoranthene	ug/kg	190 J	270 U
Benzo(g,h,i)perylene	ug/kg	98 J	270 U
Benzo(k)fluoranthene	ug/kg	85 J	270 U
Chrysene	ug/kg	130 J	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U
Fluoranthene	ug/kg	270 J	270 U
Fluorene	ug/kg	13 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	80 J	270 U
Naphthalene	ug/kg	24 J	270 U
Phenanthrene	ug/kg	180 J	270 U
Pyrene	ug/kg	210 J	270 U

Table 3.30.4

Soil Sample Analytical Results - AOI 26.4 – Former Degreaser (O 44)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB105-11**	**SB105-11**
Sample Identification		**SO-17360-022211-DR-111**	**SO-17360-022211-DR-112**
Sample Date		**2/22/2011**	**2/22/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17.5-19.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 26.4**	**AOI 26.4**
Metals			
Antimony	ug/kg	73 J	160 UJ
Arsenic	ug/kg	1500	1500
Barium	ug/kg	21700	4700
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	84 U	82 U
Chromium	ug/kg	5400	2600
Cobalt	ug/kg	2200	1900
Copper	ug/kg	12100	3400
Lead	ug/kg	6600	1900
Manganese	ug/kg	132000	99900
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	4700	3200
Selenium	ug/kg	160 J	130 J
Silver	ug/kg	84 U	82 U
Thallium	ug/kg	84 U	82 U
Vanadium	ug/kg	7300	6500
Zinc	ug/kg	13900	8700
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U
Total PCBs	ug/kg	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB106-11	SB106-11	SB106-11	SB106-11	SB106-11
Sample Identification		SO-17360-031411-DR-211	SO-17360-031411-DR-212	SO-17360-031411-DR-213	SO-17360-031411-DR-214	SO-17360-031411-DR-215
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	79 J	66 J	24 J	280 U	290 U
Acenaphthene	ug/kg	8.8 J	290 U	340 U	280 U	290 U
Acenaphthylene	ug/kg	290 U	290 U	340 U	280 U	290 U
Anthracene	ug/kg	22 J	9.5 J	340 U	280 U	290 U
Benzo(a)anthracene	ug/kg	120 J	83 J	16 J	280 U	290 U
Benzo(a)pyrene	ug/kg	140 J	86 J	9.0 J	280 U	290 U
Benzo(b)fluoranthene	ug/kg	200 J	140 J	24 J	280 U	290 U
Benzo(g,h,i)perylene	ug/kg	140 J	76 J	340 U	280 U	290 U
Benzo(k)fluoranthene	ug/kg	120 J	73 J	9.2 J	280 U	290 U
Chrysene	ug/kg	190 J	130 J	31 J	280 U	290 U
Dibenz(a,h)anthracene	ug/kg	32 J	23 J	340 U	280 U	290 U
Fluoranthene	ug/kg	240 J	150 J	38 J	280 U	290 U
Fluorene	ug/kg	290 U	290 U	340 U	280 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	100 J	59 J	340 U	280 U	290 U
Naphthalene	ug/kg	39 J	33 J	13 J	280 U	290 U
Phenanthrene	ug/kg	140 J	88 J	45 J	280 U	290 U
Pyrene	ug/kg	180 J	110 J	29 J	280 U	290 U
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	510 J	470 J	210 J	170 UJ	35 J
Arsenic	ug/kg	**5900 J[bcd]**	5400 J	2600 J	410 J	370 J
Barium	ug/kg	25800	53100	68900	8600	8700
Beryllium	ug/kg	340 U	360 U	350 U	230 U	240 U
Cadmium	ug/kg	140	140	480	85 U	83 U
Chromium	ug/kg	**200000[bcd]**	**23400[d]**	6200	5800	5800
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	4300	3000	3400	1900	2000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB106-11	SB106-11	SB106-11	SB106-11	SB106-11
Sample Identification		SO-17360-031411-DR-211	SO-17360-031411-DR-212	SO-17360-031411-DR-213	SO-17360-031411-DR-214	SO-17360-031411-DR-215
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type			Duplicate			
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	53200	35200	10600	2400	3900
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	27400	23700	22900	1700	1700
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	244000	142000	61000	33600	30000
Mercury	ug/kg	19 J	21 J	45 U	40 U	40 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	**117000[bc]**	21500	16500	4500	5100
Selenium	ug/kg	240 J	290 J	370 J	110 J	130 J
Silver	ug/kg	170	240	**4000[d]**	85 U	83 U
Thallium	ug/kg	110 U	88 U	100 U	85 U	83 U
Vanadium	ug/kg	6600	5700	10100	9000	10400
Zinc	ug/kg	57600	44300	8600	7000	8100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	290 U	340 U	280 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	290 U	340 U	280 U	290 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB106-11	SB107-11	SB107-11	SB107-11	SB107-11
Sample Identification		SO-17360-031411-DR-216	SO-17360-031411-DR-217	SO-17360-031411-DR-218	SO-17360-031411-DR-219	SO-17360-031411-DR-220
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	110 J	360 U	610 J	350 U
Acenaphthene	ug/kg	280 U	70 J	360 U	1600 J	350 U
Acenaphthylene	ug/kg	280 U	1200 U	360 U	9800 U	350 U
Anthracene	ug/kg	280 U	170 J	360 U	3100 J	350 U
Benzo(a)anthracene	ug/kg	280 U	370 J	15 J	9400 J	22 J
Benzo(a)pyrene	ug/kg	280 U	300 J	15 J	**8900 J[op]**	19 J
Benzo(b)fluoranthene	ug/kg	280 U	490 J	24 J	14000	29 J
Benzo(g,h,i)perylene	ug/kg	280 U	210 J	14 J	6200 J	15 J
Benzo(k)fluoranthene	ug/kg	280 U	310 J	11 J	4500 J	18 J
Chrysene	ug/kg	280 U	650 J	20 J	12000	29 J
Dibenz(a,h)anthracene	ug/kg	280 U	1200 U	360 U	1800 J	350 U
Fluoranthene	ug/kg	280 U	1500	31 J	**23000[d]**	58 J
Fluorene	ug/kg	280 U	31 J	360 U	2000 J	350 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	130 J	11 J	5200 J	11 J
Naphthalene	ug/kg	280 U	140 J	360 U	720 J	350 U
Phenanthrene	ug/kg	280 U	1400	15 J	**18000[d]**	41 J
Pyrene	ug/kg	280 U	960 J	23 J	17000	39 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	150 UJ	500 J	75 J	1400 J	110 J
Arsenic	ug/kg	500 J	**6500 J[bcd]**	1400 J	3900 J	1800 J
Barium	ug/kg	5200	53700	25100	57700	16800
Beryllium	ug/kg	170 U	790	220 U	600 U	270 U
Cadmium	ug/kg	75 U	170	62 J	560	100
Chromium	ug/kg	3300	**23000 J[d]**	**22400[d]**	**291000[bcdmn]**	6900
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1700	5900	3600	5300	1300

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB106-11	SB107-11	SB107-11	SB107-11	SB107-11
Sample Identification		SO-17360-031411-DR-216	SO-17360-031411-DR-217	SO-17360-031411-DR-218	SO-17360-031411-DR-219	SO-17360-031411-DR-220
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	3700	63900 J	7000	55500	5100
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	1200	49900 J	21000	52800	3200
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	23500	189000 J	30100	**1190000[bcd]**	28600
Mercury	ug/kg	38 U	23 J	54 U	64	23 J
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	3500	26000 J	7600	**172000[bcd]**	4800
Selenium	ug/kg	150 J	400 J	220 UJ	**1600 J[d]**	**1100 J[d]**
Silver	ug/kg	75 U	140	22 J	170	100 U
Thallium	ug/kg	75 U	120 U	110 U	120 U	100 U
Vanadium	ug/kg	7300	18300	6900	21800	14100
Zinc	ug/kg	6500	55000	35400	71700	10200
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	280 U	300 U	360 U	390 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	300 U	360 U	390 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	300 U	360 U	390 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	300 U	360 U	390 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	300 U	360 U	390 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	300 U	360 U	220 J	350 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	300 U	360 U	390 U	350 U
Total PCBs	ug/kg	0	0	0	220 J	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB107-11	SB108-11	SB108-11	SB108-11	SB108-11
Sample Identification		SO-17360-031411-DR-221	SO-17360-031411-DR-222	SO-17360-031411-DR-223	SO-17360-031411-DR-224	SO-17360-031411-DR-225
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	290 U	66 J	280 U	280 U	38 J
Acenaphthene	ug/kg	290 U	740 U	280 U	280 U	370 U
Acenaphthylene	ug/kg	290 U	740 U	280 U	280 U	370 U
Anthracene	ug/kg	290 U	20 J	280 U	280 U	11 J
Benzo(a)anthracene	ug/kg	290 U	110 J	280 U	21 J	32 J
Benzo(a)pyrene	ug/kg	290 U	95 J	7.3 J	22 J	32 J
Benzo(b)fluoranthene	ug/kg	290 U	180 J	11 J	41 J	56 J
Benzo(g,h,i)perylene	ug/kg	290 U	100 J	15 J	37 J	25 J
Benzo(k)fluoranthene	ug/kg	290 U	88 J	280 U	15 J	18 J
Chrysene	ug/kg	290 U	170 J	7.3 J	37 J	47 J
Dibenz(a,h)anthracene	ug/kg	290 U	32 J	280 U	280 U	370 U
Fluoranthene	ug/kg	290 U	310 J	7.7 J	64 J	93 J
Fluorene	ug/kg	290 U	740 U	280 U	280 U	10 J
Indeno(1,2,3-cd)pyrene	ug/kg	290 U	63 J	7.3 J	19 J	19 J
Naphthalene	ug/kg	290 U	34 J	280 U	280 U	22 J
Phenanthrene	ug/kg	290 U	110 J	280 U	22 J	78 J
Pyrene	ug/kg	290 U	230 J	280 U	49 J	64 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	86 J	510 J	650 J	570 J	230 J
Arsenic	ug/kg	2100 J	4600 J	470 J	650 J	1700 J
Barium	ug/kg	7500	22800	600 J	4500	33300
Beryllium	ug/kg	250 U	400 U	150 U	160 U	370 U
Cadmium	ug/kg	89 U	67 J	73 U	82 U	350
Chromium	ug/kg	5600	17600	16900	14300	10600
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1400	3000	510	550	1300

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB107-11**	**SB108-11**	**SB108-11**	**SB108-11**	**SB108-11**
Sample Identification		**SO-17360-031411-DR-221**	**SO-17360-031411-DR-222**	**SO-17360-031411-DR-223**	**SO-17360-031411-DR-224**	**SO-17360-031411-DR-225**
Sample Date		**3/14/2011**	**3/14/2011**	**3/14/2011**	**3/14/2011**	**3/14/2011**
Sample Type						
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Copper	ug/kg	4500	27700	5000	5700	10100
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	1500	39800	80500	14400	10700
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	22100	82600	65800	46800	200000
Mercury	ug/kg	45 U	23 J	30 J	35 U	42 J
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	4300	14900	13700	9400	29500
Selenium	ug/kg	340 J	230 J	150 UJ	160 UJ	**790 J[d]**
Silver	ug/kg	89 U	98	210	100	120
Thallium	ug/kg	150 U	88 U	73 U	82 U	110 U
Vanadium	ug/kg	8300	6700	730 U	650 J	9500
Zinc	ug/kg	6300	47200	5000	7600	30500
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	300 U	280 U	280 U	370 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	300 U	280 U	280 U	370 U
Total PCBs	ug/kg	0	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
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Wyoming, Michigan

Sample Location		SB108-11	SB109-11	SB109-11	SB109-11	SB109-11
Sample Identification		SO-17360-031411-DR-226	SO-17360-031411-DR-227	SO-17360-031411-DR-228	SO-17360-031411-DR-229	SO-17360-031411-DR-230
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	290 U	110 J	270 U	29000 U	120 J
Acenaphthene	ug/kg	290 U	16 J	270 U	6300 J	32 J
Acenaphthylene	ug/kg	290 U	15 J	270 U	29000 U	500 U
Anthracene	ug/kg	290 U	55 J	270 U	16000 J	87 J
Benzo(a)anthracene	ug/kg	290 U	190 J	20 J	**35000[o]**	240 J
Benzo(a)pyrene	ug/kg	290 U	200 J	24 J	**27000 J[op]**	220 J
Benzo(b)fluoranthene	ug/kg	290 U	310	36 J	**42000[o]**	330 J
Benzo(g,h,i)perylene	ug/kg	290 U	230 J	56 J	17000 J	130 J
Benzo(k)fluoranthene	ug/kg	290 U	79 J	15 J	15000 J	130 J
Chrysene	ug/kg	290 U	270 J	26 J	37000	250 J
Dibenz(a,h)anthracene	ug/kg	290 U	66 J	270 U	**4900 J[o]**	32 J
Fluoranthene	ug/kg	290 U	430	34 J	**93000[d]**	570
Fluorene	ug/kg	290 U	13 J	270 U	**7600 J[d]**	42 J
Indeno(1,2,3-cd)pyrene	ug/kg	290 U	160 J	28 J	16000 J	110 J
Naphthalene	ug/kg	290 U	42 J	270 U	**820 J[d]**	54 J
Phenanthrene	ug/kg	290 U	410	11 J	**74000[bd]**	450 J
Pyrene	ug/kg	290 U	360	28 J	63000	410 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	160 UJ	2200 J	**22800 J[bc]**	**27200 J[bc]**	2800 J
Arsenic	ug/kg	1400 J	**36600 J[bcdo]**	1900 J	**8000 J[bcdo]**	5800 J
Barium	ug/kg	8200	81800	9800	29300	48700
Beryllium	ug/kg	270 U	880	160 U	200 U	600 U
Cadmium	ug/kg	81 U	160	160	340	580
Chromium	ug/kg	4800	10100	11600	**27800[d]**	13000
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1400	3600	1000	2200	1700

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB108-11	SB109-11	SB109-11	SB109-11	SB109-11
Sample Identification		SO-17360-031411-DR-226	SO-17360-031411-DR-227	SO-17360-031411-DR-228	SO-17360-031411-DR-229	SO-17360-031411-DR-230
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	3500	34100	8400	20100	13600
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	1900	17500	19400	29800	11700
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	52200	51100	47300	153000	69500
Mercury	ug/kg	43 U	38 J	36 U	45 U	110
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	3100	13100	10800	27500	10700
Selenium	ug/kg	230 J	**530 J[d]**	160 UJ	190 J	**2700 J[d]**
Silver	ug/kg	81 U	76 J	82	310	150 U
Thallium	ug/kg	81 U	310	81 U	85 U	160 U
Vanadium	ug/kg	8200	8400	1900	4800	20000
Zinc	ug/kg	8100	15300	14400	27700	25200
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	310 U	270 U	290 U	500 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	310 U	270 U	48 J	500 U
Total PCBs	ug/kg	0	0	0	48 J	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB109-11	SB109-11	SB110-11	SB110-11	SB110-11
Sample Identification		SO-17360-031411-DR-231	SO-17360-031411-DR-232	SO-17360-031411-DR-233	SO-17360-031411-DR-234	SO-17360-031411-DR-235
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type			Duplicate			
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	280 U	950 J	280 U	56 J
Acenaphthene	ug/kg	280 U	280 U	1500 U	280 U	310 U
Acenaphthylene	ug/kg	280 U	280 U	1500 U	280 U	310 U
Anthracene	ug/kg	280 U	19 J	1500 U	280 U	310 U
Benzo(a)anthracene	ug/kg	14 J	38 J	120 J	280 U	22 J
Benzo(a)pyrene	ug/kg	12 J	35 J	94 J	280 U	23 J
Benzo(b)fluoranthene	ug/kg	17 J	49 J	150 J	8.7 J	42 J
Benzo(g,h,i)perylene	ug/kg	8.2 J	24 J	110 J	280 U	20 J
Benzo(k)fluoranthene	ug/kg	7.7 J	18 J	54 J	280 U	13 J
Chrysene	ug/kg	20 J	46 J	160 J	280 U	37 J
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	1500 U	280 U	310 U
Fluoranthene	ug/kg	35 J	120 J	190 J	11 J	55 J
Fluorene	ug/kg	280 U	7.9 J	1500 U	280 U	310 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	20 J	48 J	280 U	16 J
Naphthalene	ug/kg	280 U	280 U	420 J	280 U	27 J
Phenanthrene	ug/kg	26 J	84 J	470 J	7.8 J	59 J
Pyrene	ug/kg	25 J	81 J	160 J	7.5 J	35 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	74 J	71 J	1200 J	470 J	740 J
Arsenic	ug/kg	1500 J	1700 J	2600 J	2500 J	3800 J
Barium	ug/kg	4200	4000	78200	5300	33400
Beryllium	ug/kg	200 U	220 U	390 U	160 U	310 U
Cadmium	ug/kg	81 U	81 U	410	250	590
Chromium	ug/kg	4000	4600	6900	16900	13500
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1900	2200	2400	1400	2800

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB109-11	SB109-11	SB110-11	SB110-11	SB110-11
Sample Identification		SO-17360-031411-DR-231	SO-17360-031411-DR-232	SO-17360-031411-DR-233	SO-17360-031411-DR-234	SO-17360-031411-DR-235
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type			Duplicate			
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	5000	5800	71300	4900	9700
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	1500	1500	70800	7300	11100
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	27600	35200	99200	69500	56100
Mercury	ug/kg	42 U	39 U	45 U	41 U	43 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	4400	5400	7400	14700	17700
Selenium	ug/kg	160 J	170 J	300 J	160 UJ	**430 J[d]**
Silver	ug/kg	81 U	81 U	74 J	**3900[d]**	**2000[d]**
Thallium	ug/kg	84 U	81 U	450 U	81 U	89 U
Vanadium	ug/kg	7500	7200	8000	2200	5700
Zinc	ug/kg	7500	8100	62000	9200	15500
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	280 U	300 U	280 U	310 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	280 U	300 U	280 U	27 J
Total PCBs	ug/kg	0	0	0	0	27 J

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB110-11	SB110-11	SB111-11	SB111-11	SB111-11
Sample Identification		SO-17360-031411-DR-236	SO-17360-031411-DR-237	SO-17360-031411-DR-238	SO-17360-031411-DR-239	SO-17360-031411-DR-240
Sample Date		3/14/2011	3/14/2011	3/14/2011	3/14/2011	3/14/2011
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	130 J	280 U	53 J	28 J	24 J
Acenaphthene	ug/kg	680 U	280 U	28 J	300 U	19 J
Acenaphthylene	ug/kg	680 U	280 U	600 U	300 U	370 U
Anthracene	ug/kg	680 U	280 U	110 J	300 U	62 J
Benzo(a)anthracene	ug/kg	31 J	280 U	340 J	24 J	170 J
Benzo(a)pyrene	ug/kg	27 J	280 U	260 J	24 J	130 J
Benzo(b)fluoranthene	ug/kg	43 J	280 U	490 J	45 J	230 J
Benzo(g,h,i)perylene	ug/kg	20 J	280 U	190 J	23 J	77 J
Benzo(k)fluoranthene	ug/kg	680 U	280 U	200 J	16 J	77 J
Chrysene	ug/kg	42 J	280 U	500 J	44 J	240 J
Dibenz(a,h)anthracene	ug/kg	680 U	280 U	9.6 J	300 U	23 J
Fluoranthene	ug/kg	83 J	280 U	1100	44 J	610
Fluorene	ug/kg	680 U	280 U	31 J	300 U	18 J
Indeno(1,2,3-cd)pyrene	ug/kg	680 U	280 U	170 J	17 J	71 J
Naphthalene	ug/kg	69 J	280 U	30 J	13 J	15 J
Phenanthrene	ug/kg	80 J	280 U	790	50 J	410
Pyrene	ug/kg	52 J	280 U	800	35 J	450
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	320 J	61 J	200 J	130 J	160 J
Arsenic	ug/kg	2300 J	1400 J	**6300 J[bcd]**	4500 J	2800 J
Barium	ug/kg	57700	5500	66700	24300	73300
Beryllium	ug/kg	650 U	230 U	470 U	350 U	570 U
Cadmium	ug/kg	1100	81 U	220	60 J	100 U
Chromium	ug/kg	12600	4500	8600	11900	15800
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1300	1800	3000	3200	2500

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB110-11**	**SB110-11**	**SB111-11**	**SB111-11**	**SB111-11**
Sample Identification		**SO-17360-031411-DR-236**	**SO-17360-031411-DR-237**	**SO-17360-031411-DR-238**	**SO-17360-031411-DR-239**	**SO-17360-031411-DR-240**
Sample Date		**3/14/2011**	**3/14/2011**	**3/14/2011**	**3/14/2011**	**3/14/2011**
Sample Type						
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Copper	ug/kg	13600	3200	54200	18300	12000
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	7700	1600	30100	8800	8200
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	18100	37600	80000	131000	88000
Mercury	ug/kg	**140[d]**	40 U	24 J	45 U	55 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	8100	4200	9800	12500	13500
Selenium	ug/kg	**3600 J[d]**	140 J	400 J	150 J	**560 J[d]**
Silver	ug/kg	500	28 J	100	90	87 J
Thallium	ug/kg	190 U	81 U	100 U	100 U	100 U
Vanadium	ug/kg	40200	7100	8900	10800	32100
Zinc	ug/kg	14900	7700	29000	16300	24100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1221 (PCB-1221)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1232 (PCB-1232)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1242 (PCB-1242)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1248 (PCB-1248)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1254 (PCB-1254)	ug/kg	680 U	280 U	300 U	300 U	370 U
Aroclor-1260 (PCB-1260)	ug/kg	680 U	280 U	300 U	300 U	370 U
Total PCBs	ug/kg	0	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB111-11	SB111-11	SB145-11	SB145-11	SB145-11
Sample Identification		SO-17360-031411-DR-241	SO-17360-031411-DR-242	S-17360-093011-EM-151	S-17360-093011-EM-152	S-17360-093011-EM-153
Sample Date		3/14/2011	3/14/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type					Duplicate	
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	4500 U	330 U	130 J	19 J	8.0 J
Acenaphthene	ug/kg	4500 U	330 U	40 J	8.1 J	6.7 J
Acenaphthylene	ug/kg	4500 U	330 U	8.1 J	300 U	280 U
Anthracene	ug/kg	4500 U	330 U	110 J	16 J	19 J
Benzo(a)anthracene	ug/kg	4500 U	330 U	470 J	76 J	110 J
Benzo(a)pyrene	ug/kg	4500 U	330 U	480 J	61 J	98 J
Benzo(b)fluoranthene	ug/kg	4500 U	330 U	730 J	110 J	150 J
Benzo(g,h,i)perylene	ug/kg	4500 U	330 U	350 J	46 J	87 J
Benzo(k)fluoranthene	ug/kg	4500 U	330 U	310 J	50 J	61 J
Chrysene	ug/kg	4500 U	330 U	600 J	99 J	120 J
Dibenz(a,h)anthracene	ug/kg	4500 U	330 U	110 J	13 J	25 J
Fluoranthene	ug/kg	4500 U	330 U	900 J	140 J	200 J
Fluorene	ug/kg	4500 U	330 U	42 J	6.4 J	6.7 J
Indeno(1,2,3-cd)pyrene	ug/kg	4500 U	330 U	300 J	38 J	65 J
Naphthalene	ug/kg	4500 U	330 U	72 J	13 J	5.6 J
Phenanthrene	ug/kg	4500 U	330 U	560 J	110 J	92 J
Pyrene	ug/kg	4500 U	330 U	720 J	110 J	150 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	830 J	71 J	370 J	170 UJ	**81000 J[bc]**
Arsenic	ug/kg	5000 J	2600 J	**6100 J[bcd]**	4500 J	1900 J
Barium	ug/kg	41100	8300	46000	36000	13000
Beryllium	ug/kg	570 U	210 U	390	260	190
Cadmium	ug/kg	1000	97 U	170	110	44 J
Chromium	ug/kg	17000	5800	8400	5800	18000
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	980 J	1500	3500	4100	4800

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB111-11	SB111-11	SB145-11	SB145-11	SB145-11
Sample Identification		SO-17360-031411-DR-241	SO-17360-031411-DR-242	S-17360-093011-EM-151	S-17360-093011-EM-152	S-17360-093011-EM-153
Sample Date		3/14/2011	3/14/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type					Duplicate	
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	24100	4400	26000 J	15000 J	5100 J
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	3400	1700	34000 J	8300 J	130000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	19400	40000	67000	180000	91000
Mercury	ug/kg	120 J	46 U	43	45 U	36 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	12200	4100	12000	7700	5100
Selenium	ug/kg	**11900 J[bcd]**	300 J	240 J	170 J	200 J
Silver	ug/kg	270 U	97 U	75 U	84 U	72 U
Thallium	ug/kg	270 U	97 U	140 U	180 U	72 U
Vanadium	ug/kg	48700	7000	6900	10000	6400
Zinc	ug/kg	16100 U	12900	25000 J	44000 J	15000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1221 (PCB-1221)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1232 (PCB-1232)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1242 (PCB-1242)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1248 (PCB-1248)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1254 (PCB-1254)	ug/kg	890 U	330 U	36 U	37 U	35 U
Aroclor-1260 (PCB-1260)	ug/kg	890 U	330 U	36 U	37 U	35 U
Total PCBs	ug/kg	0	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB145-11	SB145-11	SB145-11	SB146-11	SB146-11
Sample Identification		S-17360-093011-EM-154	S-17360-093011-EM-155	S-17360-093011-EM-156	S-17360-093011-EM-146	S-17360-093011-EM-147
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	120 J	91 J	390 U	78 J	130 J
Acenaphthene	ug/kg	370 J	15 J	390 U	300 U	110 J
Acenaphthylene	ug/kg	13 J	11 J	390 U	300 U	1100 U
Anthracene	ug/kg	630 J	45 J	390 U	12 J	380 J
Benzo(a)anthracene	ug/kg	1500	210 J	390 U	69 J	1600
Benzo(a)pyrene	ug/kg	1100	210 J	390 U	41 J	1200
Benzo(b)fluoranthene	ug/kg	1500	280 J	390 U	100 J	1600
Benzo(g,h,i)perylene	ug/kg	690 J	170 J	390 U	34 J	800 J
Benzo(k)fluoranthene	ug/kg	780	130 J	390 U	26 J	760 J
Chrysene	ug/kg	1300	250 J	390 U	120 J	1800
Dibenz(a,h)anthracene	ug/kg	240 J	45 J	390 U	300 U	270 J
Fluoranthene	ug/kg	3300	460 J	390 U	120 J	3100
Fluorene	ug/kg	300 J	20 J	390 U	5.7 J	150 J
Indeno(1,2,3-cd)pyrene	ug/kg	650 J	140 J	390 U	22 J	700 J
Naphthalene	ug/kg	81 J	61 J	390 U	46 J	99 J
Phenanthrene	ug/kg	**2600**[d]	230 J	390 U	200 J	1700
Pyrene	ug/kg	2400	350 J	390 U	99 J	2300
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	590 J	920 J	170 J	260 J	300 UJ
Arsenic	ug/kg	1700 J	**6300 J**[bcd]	1400 J	**14000 J**[bcdo]	**7900 J**[bcdo]
Barium	ug/kg	11000	98000	23000	41000	31000
Beryllium	ug/kg	140 J	480	180 J	360	350
Cadmium	ug/kg	85 U	550	260	180	53 J
Chromium	ug/kg	3300	9600	15000	4200	5800
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1500	1700	1500	2300	3700

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB145-11	SB145-11	SB145-11	SB146-11	SB146-11
Sample Identification		S-17360-093011-EM-154	S-17360-093011-EM-155	S-17360-093011-EM-156	S-17360-093011-EM-146	S-17360-093011-EM-147
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	3700 J	17000 J	15000	35000 J	51000 J
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	2600	18000	3200	11000	13000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	66000	130000	21000	18000	98000
Mercury	ug/kg	36 U	**190[d]**	58 J	42 U	40 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	6400	9000	5500	14000	16000
Selenium	ug/kg	160 J	**3000 J[d]**	**1700 J[d]**	**750 J[d]**	160 J
Silver	ug/kg	85 U	170 U	29 J	88 U	74 U
Thallium	ug/kg	85 U	180 U	340	450	180 U
Vanadium	ug/kg	5300	30000	24000	5200	7800
Zinc	ug/kg	7900 J	16000 J	6900 J	75000 J	14000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	36 U	80 U	48 U	37 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	36 U	80 U	48 U	37 U	36 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB146-11	SB146-11	SB146-11	SB147-11	SB147-11
Sample Identification		S-17360-093011-EM-148	S-17360-093011-EM-149	S-17360-093011-EM-150	S-17360-093011-EM-141	S-17360-093011-EM-142
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	6.1 J	110 J	620 U	250 J	86 J
Acenaphthene	ug/kg	5.7 J	1300 U	620 U	27 J	580 U
Acenaphthylene	ug/kg	280 U	1300 U	620 U	48 J	17 J
Anthracene	ug/kg	26 J	1300 U	620 U	110 J	29 J
Benzo(a)anthracene	ug/kg	120 J	44 J	620 U	960 J	190 J
Benzo(a)pyrene	ug/kg	110 J	34 J	620 U	1100 J	220 J
Benzo(b)fluoranthene	ug/kg	160 J	47 J	620 U	1700 J	320 J
Benzo(g,h,i)perylene	ug/kg	75 J	1300 U	620 U	1000 J	210 J
Benzo(k)fluoranthene	ug/kg	61 J	25 J	620 U	810 J	150 J
Chrysene	ug/kg	140 J	54 J	620 U	1400 J	280 J
Dibenz(a,h)anthracene	ug/kg	22 J	1300 U	620 U	250 J	28 J
Fluoranthene	ug/kg	240 J	120 J	620 U	2300 J	440 J
Fluorene	ug/kg	8.0 J	1300 U	620 U	34 J	8.2 J
Indeno(1,2,3-cd)pyrene	ug/kg	67 J	1300 U	620 U	870 J	150 J
Naphthalene	ug/kg	5.2 J	63 J	620 U	160 J	40 J
Phenanthrene	ug/kg	110 J	89 J	620 U	730 J	170 J
Pyrene	ug/kg	180 J	65 J	22 J	1700 J	310 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	140 UJ	380 UJ	370 UJ	510 J	380 J
Arsenic	ug/kg	2500 J	3500 J	4800 J	3800 J	2300 J
Barium	ug/kg	14000	39000	44000	37000	32000
Beryllium	ug/kg	140	430	270 J	260	200
Cadmium	ug/kg	33 J	540	410	2200	1400
Chromium	ug/kg	4600	9700	14000	13000	7700
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1400	1600	1800	3200	2300

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB146-11	SB146-11	SB146-11	SB147-11	SB147-11
Sample Identification		S-17360-093011-EM-148	S-17360-093011-EM-149	S-17360-093011-EM-150	S-17360-093011-EM-141	S-17360-093011-EM-142
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	24000 J	14000 J	16000 J	78000 J	41000 J
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	3900	9300	5300	180000	63000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	79000	57000	46000	160000	100000
Mercury	ug/kg	38 U	**180[d]**	83 J	19 J	31 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	3500	12000	5100	16000 J	12000 J
Selenium	ug/kg	100 J	**3400 J[d]**	**3700 J[d]**	170 J	160 J
Silver	ug/kg	69 U	190 U	190 U	120	85
Thallium	ug/kg	72 U	190 U	190 U	99 U	74 U
Vanadium	ug/kg	5600	26000	21000	11000	10000
Zinc	ug/kg	13000 J	12000 J	11000 J	150000 J	130000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	35 U	81 U	77 U	180 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	35 U	81 U	77 U	1100	280
Total PCBs	ug/kg	0	0	0	1100	280

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB147-11	SB147-11	SB147-11	SB148-11	SB148-11
Sample Identification		S-17360-093011-EM-143	S-17360-093011-EM-144	S-17360-093011-EM-145	S-17360-093011-EM-136	S-17360-093011-EM-137
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	97 J	180 J	80 J	64 J	450 J
Acenaphthene	ug/kg	1600 U	930 U	860 U	580 U	16000 U
Acenaphthylene	ug/kg	1600 U	14 J	860 U	27 J	16000 U
Anthracene	ug/kg	49 J	33 J	12 J	77 J	16000 U
Benzo(a)anthracene	ug/kg	220 J	110 J	61 J	540 J	600 J
Benzo(a)pyrene	ug/kg	260 J	110 J	59 J	700	200 J
Benzo(b)fluoranthene	ug/kg	460 J	210 J	110 J	980	1200 J
Benzo(g,h,i)perylene	ug/kg	290 J	110 J	66 J	500 J	610 J
Benzo(k)fluoranthene	ug/kg	120 J	70 J	60 J	510 J	350 J
Chrysene	ug/kg	340 J	200 J	110 J	740	2700 J
Dibenz(a,h)anthracene	ug/kg	58 J	930 U	860 U	120 J	16000 U
Fluoranthene	ug/kg	530 J	300 J	150 J	1100	950 J
Fluorene	ug/kg	1600 U	27 J	860 U	15 J	16000 U
Indeno(1,2,3-cd)pyrene	ug/kg	220 J	85 J	52 J	450 J	370 J
Naphthalene	ug/kg	70 J	120 J	55 J	42 J	**920 J[d]**
Phenanthrene	ug/kg	220 J	210 J	84 J	240 J	**2600 J[d]**
Pyrene	ug/kg	370 J	200 J	110 J	840	700 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	410 J	500 J	610 J	160 UJ	**9100 J[bc]**
Arsenic	ug/kg	4100 J	4100 J	**6000 J[bcd]**	2200 J	**17000 J[bcdo]**
Barium	ug/kg	150000	210000	140000	14000	390000
Beryllium	ug/kg	570	690	520	160	280
Cadmium	ug/kg	1000	4000	2700	780	**95000[bcd]**
Chromium	ug/kg	14000	**23000[d]**	**22000[d]**	4200	**110000[bcd]**
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1500	2700	2300	2000	**21000[bcd]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB147-11	SB147-11	SB147-11	SB148-11	SB148-11
Sample Identification		S-17360-093011-EM-143	S-17360-093011-EM-144	S-17360-093011-EM-145	S-17360-093011-EM-136	S-17360-093011-EM-137
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	16000 J	33000 J	29000 J	15000 J	**1300000 J[d]**
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	14000	30000	24000	20000	**1200000[bcop]**
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	67000	100000	61000	74000	**1000000[bcd]**
Mercury	ug/kg	**190[d]**	**180[d]**	100 J	29 U	41 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	21000	69000 J	47000 J	7900	**270000 J[bcd]**
Selenium	ug/kg	**4400 J[bcd]**	**7600 J[bcd]**	**7900 J[bcd]**	160 J	290 J
Silver	ug/kg	66 J	86 J	74 J	80 U	**1500[d]**
Thallium	ug/kg	220 U	280 U	220 U	230 U	160 U
Vanadium	ug/kg	26000	28000	34000	6000	46000
Zinc	ug/kg	80000 J	**470000 J[d]**	290000 J	48000 J	**1900000 J[d]**
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	98 U	120 U	110 U	1800 U	810 U
Aroclor-1221 (PCB-1221)	ug/kg	98 U	120 U	110 U	1800 U	810 U
Aroclor-1232 (PCB-1232)	ug/kg	98 U	120 U	110 U	1800 U	810 U
Aroclor-1242 (PCB-1242)	ug/kg	98 U	120 U	110 U	1800 U	810 U
Aroclor-1248 (PCB-1248)	ug/kg	98 U	120 U	110 U	1800 U	810 U
Aroclor-1254 (PCB-1254)	ug/kg	98 U	120 U	110 U	1800 U	**10000[o]**
Aroclor-1260 (PCB-1260)	ug/kg	98 U	120 U	110 U	**14000[o]**	810 U
Total PCBs	ug/kg	0	0	0	**14000[o]**	**10000[o]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB148-11	SB148-11	SB148-11	SB149-11	SB149-11
Sample Identification		S-17360-093011-EM-138	S-17360-093011-EM-139	S-17360-093011-EM-140	S-17360-093011-EM-131	S-17360-093011-EM-132
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	1200 U	150 J	280 U	30 J	300 U
Acenaphthene	ug/kg	1200 U	8600 U	280 U	1400 U	300 U
Acenaphthylene	ug/kg	1200 U	8600 U	280 U	35 J	300 U
Anthracene	ug/kg	1200 U	8600 U	280 U	250 J	12 J
Benzo(a)anthracene	ug/kg	52 J	570 J	5.9 J	3100	84 J
Benzo(a)pyrene	ug/kg	45 J	410 J	280 U	**3300[o]**	95 J
Benzo(b)fluoranthene	ug/kg	75 J	910 J	5.3 J	4800	140 J
Benzo(g,h,i)perylene	ug/kg	43 J	440 J	280 U	2500	74 J
Benzo(k)fluoranthene	ug/kg	30 J	270 J	280 U	2200	58 J
Chrysene	ug/kg	76 J	1600 J	5.7 J	3800	99 J
Dibenz(a,h)anthracene	ug/kg	1200 U	8600 U	280 U	730 J	21 J
Fluoranthene	ug/kg	89 J	980 J	3.6 J	**5900[d]**	170 J
Fluorene	ug/kg	1200 U	8600 U	280 U	35 J	300 U
Indeno(1,2,3-cd)pyrene	ug/kg	36 J	310 J	280 U	2100	59 J
Naphthalene	ug/kg	15 J	230 J	280 U	31 J	300 U
Phenanthrene	ug/kg	41 J	1000 J	280 U	950 J	61 J
Pyrene	ug/kg	68 J	690 J	280 U	4400	130 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	1200 J	3900 J	140 UJ	460 J	470 J
Arsenic	ug/kg	1400 J	**7800 J[bcdo]**	1500 J	4200 J	1300 J
Barium	ug/kg	12000	140000	6700	29000	32000
Beryllium	ug/kg	170 U	260	190	220	160
Cadmium	ug/kg	1400	**22000[bcd]**	180	360	170
Chromium	ug/kg	**26000[d]**	**38000[bcd]**	12000	8700	5300
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1900	6200	2200	3200	2100

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB148-11	SB148-11	SB148-11	SB149-11	SB149-11
Sample Identification		S-17360-093011-EM-138	S-17360-093011-EM-139	S-17360-093011-EM-140	S-17360-093011-EM-131	S-17360-093011-EM-132
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	41000 J	**280000 J[d]**	4600 J	23000	16000
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	130000	340000	1900	49000	28000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	96000	310000	38000	270000	210000
Mercury	ug/kg	40 U	49 U	41 U	13 J	16 J
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	23000 J	67000 J	3600	7600	5300
Selenium	ug/kg	170 UJ	**550 J[d]**	190 J	180 J	110 J
Silver	ug/kg	**3300[d]**	**4300[d]**	66 U	29 J	37 J
Thallium	ug/kg	85 U	160 U	66 U	87 U	80 U
Vanadium	ug/kg	1400	17000	9400	8600	6300
Zinc	ug/kg	29000 J	**490000 J[d]**	11000 J	29000 J	34000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1221 (PCB-1221)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1232 (PCB-1232)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1242 (PCB-1242)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1248 (PCB-1248)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1254 (PCB-1254)	ug/kg	180 U	1100 U	35 U	1800 U	38 U
Aroclor-1260 (PCB-1260)	ug/kg	890	**7100[o]**	35 U	**8900[o]**	340
Total PCBs	ug/kg	890	**7100[o]**	0	**8900[o]**	340

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB149-11	SB149-11	SB149-11	SB150-11	SB150-11
Sample Identification		S-17360-093011-EM-133	S-17360-093011-EM-134	S-17360-093011-EM-135	S-17360-093011-EM-126	S-17360-093011-EM-127
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	62 J	280 U	290 U	15 J	36 J
Acenaphthene	ug/kg	590 U	280 U	290 U	6.1 J	110 J
Acenaphthylene	ug/kg	590 U	280 U	290 U	14 J	12 J
Anthracene	ug/kg	9.0 J	280 U	290 U	49 J	250 J
Benzo(a)anthracene	ug/kg	590 U	280 U	290 U	280 J	610
Benzo(a)pyrene	ug/kg	29 J	280 U	290 U	400	530 J
Benzo(b)fluoranthene	ug/kg	49 J	280 U	290 U	670	890
Benzo(g,h,i)perylene	ug/kg	27 J	280 U	290 U	550	380 J
Benzo(k)fluoranthene	ug/kg	16 J	280 U	290 U	250 J	380 J
Chrysene	ug/kg	590 U	280 U	290 U	430	650
Dibenz(a,h)anthracene	ug/kg	590 U	280 U	290 U	91 J	100 J
Fluoranthene	ug/kg	85 J	280 U	290 U	650	1600
Fluorene	ug/kg	17 J	280 U	290 U	9.7 J	100 J
Indeno(1,2,3-cd)pyrene	ug/kg	17 J	280 U	290 U	370	350 J
Naphthalene	ug/kg	39 J	280 U	290 U	11 J	32 J
Phenanthrene	ug/kg	76 J	280 U	290 U	160 J	1100
Pyrene	ug/kg	45 J	280 U	290 U	520	1100
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	220 J	140 UJ	150 UJ	230 J	230 J
Arsenic	ug/kg	**6200 J[bcd]**	1300 J	3600 J	1800 J	1800 J
Barium	ug/kg	48000	3700	5500	15000	19000
Beryllium	ug/kg	500	39 J	200	140 J	150
Cadmium	ug/kg	790	70 U	74 U	470	440
Chromium	ug/kg	**34000[bcd]**	4400	6800	7300	6900
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1800	890	1300	2300	2000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB149-11	SB149-11	SB149-11	SB150-11	SB150-11
Sample Identification		S-17360-093011-EM-133	S-17360-093011-EM-134	S-17360-093011-EM-135	S-17360-093011-EM-126	S-17360-093011-EM-127
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	26000	1800	5900	19000	13000
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	10000	1400	3000	53000	21000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	36000	17000	20000	130000	85000
Mercury	ug/kg	**180[d]**	39 U	40 U	42	20 J
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	14000	2200	3400	7000	5900
Selenium	ug/kg	**5500 J[bcd]**	150 J	**1200 J[d]**	100 J	130 J
Silver	ug/kg	63 J	15 J	74 U	79 U	73 U
Thallium	ug/kg	150 J	70 U	74 U	79 U	73 U
Vanadium	ug/kg	27000	5400	8100	7500	7000
Zinc	ug/kg	20000 J	3500 J	5700 J	33000 J	23000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	75 U	35 U	36 U	730 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	75 U	35 U	36 U	**4800[o]**	220
Total PCBs	ug/kg	0	0	0	**4800[o]**	220

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB150-11	SB150-11	SB150-11	SB151-11	SB151-11
Sample Identification		S-17360-093011-EM-128	S-17360-093011-EM-129	S-17360-093011-EM-130	S-17360-093011-EM-121	S-17360-093011-EM-122
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	4.1 J	22 J	300 U	1400 U	280 U
Acenaphthene	ug/kg	7.2 J	370 U	300 U	1400 U	280 U
Acenaphthylene	ug/kg	4.7 J	370 U	300 U	1400 U	280 U
Anthracene	ug/kg	45 J	370 U	300 U	1400 U	280 U
Benzo(a)anthracene	ug/kg	260 J	17 J	300 U	26 J	6.1 J
Benzo(a)pyrene	ug/kg	250 J	17 J	300 U	21 J	7.1 J
Benzo(b)fluoranthene	ug/kg	390	29 J	300 U	34 J	13 J
Benzo(g,h,i)perylene	ug/kg	200 J	17 J	300 U	1400 U	7.3 J
Benzo(k)fluoranthene	ug/kg	150 J	8.7 J	300 U	18 J	4.7 J
Chrysene	ug/kg	300	26 J	300 U	37 J	8.5 J
Dibenz(a,h)anthracene	ug/kg	53 J	370 U	300 U	1400 U	280 U
Fluoranthene	ug/kg	560	35 J	5.0 J	37 J	9.0 J
Fluorene	ug/kg	9.6 J	370 U	300 U	1400 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	170 J	14 J	300 U	1400 U	6.7 J
Naphthalene	ug/kg	14 J	16 J	300 U	1400 U	280 U
Phenanthrene	ug/kg	170 J	26 J	300 U	33 J	280 U
Pyrene	ug/kg	410	27 J	300 U	31 J	7.7 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	1200 J	400 J	180 UJ	140 UJ	150 UJ
Arsenic	ug/kg	1800 J	2300 J	2400 J	1500 J	1200 J
Barium	ug/kg	17000	48000	19000	20000	15000
Beryllium	ug/kg	130 J	220	100 J	160	160
Cadmium	ug/kg	560	1000	53 J	67 J	48 J
Chromium	ug/kg	7900	6000	6300	9200	5200
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	2300	2100	1500	2700	1900

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB150-11	SB150-11	SB150-11	SB151-11	SB151-11
Sample Identification		S-17360-093011-EM-128	S-17360-093011-EM-129	S-17360-093011-EM-130	S-17360-093011-EM-121	S-17360-093011-EM-122
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	27000	17000	3500	7800	28000
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	27000	12000	3100	9500	4000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	91000	73000	25000	150000	65000
Mercury	ug/kg	35 U	39 J	42 U	29 J	36 U
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	7100	6200	4100	7300	4300
Selenium	ug/kg	130 J	**550 J[d]**	310 J	100 J	110 J
Silver	ug/kg	77 U	79 J	90 U	70 U	74 U
Thallium	ug/kg	77 U	98 U	100 U	70 U	74 U
Vanadium	ug/kg	8100	12000	12000	10000	7700
Zinc	ug/kg	39000 J	160000 J	22000 J	12000 J	9200 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1221 (PCB-1221)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1232 (PCB-1232)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1242 (PCB-1242)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1248 (PCB-1248)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1254 (PCB-1254)	ug/kg	37 U	46 U	38 U	35 U	35 U
Aroclor-1260 (PCB-1260)	ug/kg	76	43 J	38 U	35 U	35 U
Total PCBs	ug/kg	76	43 J	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB151-11	SB151-11	SB151-11	SB152-11	SB152-11
Sample Identification		S-17360-093011-EM-123	S-17360-093011-EM-124	S-17360-093011-EM-125	S-17360-093011-EM-116	S-17360-093011-EM-117
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	290 U	290 U	1100 U	5.9 J
Acenaphthene	ug/kg	280 U	290 U	290 U	1100 U	280 U
Acenaphthylene	ug/kg	280 U	290 U	290 U	23 J	280 U
Anthracene	ug/kg	280 U	32 J	290 U	14 J	280 U
Benzo(a)anthracene	ug/kg	6.6 J	290 U	290 U	39 J	11 J
Benzo(a)pyrene	ug/kg	6.4 J	290 U	290 U	41 J	14 J
Benzo(b)fluoranthene	ug/kg	9.5 J	290 U	290 U	69 J	18 J
Benzo(g,h,i)perylene	ug/kg	5.7 J	290 U	290 U	43 J	13 J
Benzo(k)fluoranthene	ug/kg	5.8 J	290 U	290 U	24 J	8.2 J
Chrysene	ug/kg	7.7 J	290 U	290 U	56 J	17 J
Dibenz(a,h)anthracene	ug/kg	280 U	290 U	290 U	1100 U	280 U
Fluoranthene	ug/kg	10 J	290 U	290 U	76 J	29 J
Fluorene	ug/kg	280 U	290 U	290 U	1100 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	4.5 J	290 U	290 U	33 J	9.9 J
Naphthalene	ug/kg	280 U	290 U	290 U	1100 U	3.5 J
Phenanthrene	ug/kg	5.1 J	290 U	290 U	27 J	17 J
Pyrene	ug/kg	8.2 J	290 U	290 U	66 J	20 J
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	150 UJ	160 UJ	170 UJ	170 UJ	170 UJ
Arsenic	ug/kg	1100 J	1300 J	2100 J	1100 J	1100 J
Barium	ug/kg	14000	10000	10000	47000	32000
Beryllium	ug/kg	130 J	69 J	100 J	210	160 J
Cadmium	ug/kg	53 J	82 U	87 U	83 U	86 U
Chromium	ug/kg	4000	3400	6300	5800	6700
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	1700	1300	1700	2300	1800

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB151-11	SB151-11	SB151-11	SB152-11	SB152-11
Sample Identification		S-17360-093011-EM-123	S-17360-093011-EM-124	S-17360-093011-EM-125	S-17360-093011-EM-116	S-17360-093011-EM-117
Sample Date		9/30/2011	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	3500	890	2700	3500	3500
Metals (continued)						
Iron	ug/kg	--	--	--	--	--
Lead	ug/kg	2800	1500	2700	4500	4200
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	63000	17000	22000	280000	120000
Mercury	ug/kg	28 U	35 U	28	39 U	18 J
Molybdenum	ug/kg	--	--	--	--	--
Nickel	ug/kg	3600	2500	3800	4700	3600
Selenium	ug/kg	110 J	160 UJ	130 J	150 J	190 J
Silver	ug/kg	74 U	82 U	87 U	83 U	86 U
Thallium	ug/kg	74 U	82 U	87 U	180 U	240 U
Vanadium	ug/kg	6900	9700	12000	8800	8100
Zinc	ug/kg	7600 J	3600 J	6600 J	12000 J	9000 J
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	35 U	36 U	37 U	36 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	35 U	57	37 U	36 U	36 U
Total PCBs	ug/kg	0	57	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB152-11	SB152-11	SB152-11	SB207-12	SB207-12
Sample Identification		S-17360-093011-EM-118	S-17360-093011-EM-119	S-17360-093011-EM-120	S-17360-110112-DD-185	S-17360-110112-DD-186
Sample Date		9/30/2011	9/30/2011	9/30/2011	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	280 U	290 U	15000 U	1800 U
Acenaphthene	ug/kg	280 U	280 U	290 U	94 J	15 J
Acenaphthylene	ug/kg	280 U	280 U	290 U	15000 U	1800 U
Anthracene	ug/kg	280 U	280 U	290 U	250 J	93 J
Benzo(a)anthracene	ug/kg	280 U	280 U	290 U	1900 J	1500 J
Benzo(a)pyrene	ug/kg	280 U	280 U	290 U	**2200 J[o]**	1600 J
Benzo(b)fluoranthene	ug/kg	280 U	280 U	290 U	4000 J	2600
Benzo(g,h,i)perylene	ug/kg	280 U	280 U	290 U	15000 U	380 J
Benzo(k)fluoranthene	ug/kg	280 U	280 U	290 U	1400 J	1500 J
Chrysene	ug/kg	3.3 J	280 U	290 U	2600 J	1900
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	290 U	15000 U	120 J
Fluoranthene	ug/kg	7.7 J	280 U	290 U	4700 J	2600
Fluorene	ug/kg	280 U	280 U	290 U	94 J	11 J
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	280 U	290 U	15000 U	510 J
Naphthalene	ug/kg	280 U	280 U	290 U	15000 U	1800 U
Phenanthrene	ug/kg	280 U	280 U	290 U	1500 J	540 J
Pyrene	ug/kg	5.0 J	280 U	290 U	4200 J	2000
Total solids	%	--	--	--	88	93
Metals						
Antimony	ug/kg	130 UJ	160 UJ	170 UJ	900	880
Arsenic	ug/kg	970 J	1400 J	980 J	4900	3400
Barium	ug/kg	5100	8000	9700	78000	28000
Beryllium	ug/kg	120 J	200	190	280 J	160 J
Cadmium	ug/kg	66 U	79 U	84 U	890	1200
Chromium	ug/kg	6100	10000	6400	**32000[bcd]**	8900
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	2000	3200	2600	4200	2200

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB152-11**	**SB152-11**	**SB152-11**	**SB207-12**	**SB207-12**
Sample Identification		**S-17360-093011-EM-118**	**S-17360-093011-EM-119**	**S-17360-093011-EM-120**	**S-17360-110112-DD-185**	**S-17360-110112-DD-186**
Sample Date		**9/30/2011**	**9/30/2011**	**9/30/2011**	**11/1/2012**	**11/1/2012**
Sample Type						
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Copper	ug/kg	1500	4100	6500	72000	31000
Metals (continued)						
Iron	ug/kg	--	--	--	**16000000[bc]**	9000000
Lead	ug/kg	1700	3600	2500	91000 J	47000 J
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	29000	46000	47000	370000	170000
Mercury	ug/kg	35 U	35 U	17 J	26 J	50 U
Molybdenum	ug/kg	--	--	--	**3600[b]**	1000
Nickel	ug/kg	4000	6900	6400	18000	7100
Selenium	ug/kg	110 J	160 J	230 J	300	96 J
Silver	ug/kg	66 U	79 U	84 U	120	65
Thallium	ug/kg	85 U	79 U	85 U	69	55
Vanadium	ug/kg	8000	16000	8000	19000	7600
Zinc	ug/kg	5100 J	9600 J	8800 J	**750000[d]**	69000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1221 (PCB-1221)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1232 (PCB-1232)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1242 (PCB-1242)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1248 (PCB-1248)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1254 (PCB-1254)	ug/kg	35 U	35 U	36 U	370 U	1400 U
Aroclor-1260 (PCB-1260)	ug/kg	35 U	35 U	36 U	240 J	**23000[op]**
Total PCBs	ug/kg	0	0	0	240 J	**23000[op]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB207-12	SB207-12	SB207-12	SB207-12	SB212-12
Sample Identification		S-17360-110112-DD-187	S-17360-110112-DD-188	S-17360-110112-DD-189	S-17360-110112-DD-190	S-17360-110112-DD-191
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type			Duplicate			
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	50 J	50 J	1900 U	580 U	14000 U
Acenaphthene	ug/kg	17 J	2000 U	16 J	580 U	14000 U
Acenaphthylene	ug/kg	2000 U	2000 U	1900 U	580 U	14000 U
Anthracene	ug/kg	50 J	25 J	39 J	1.7 J	110 J
Benzo(a)anthracene	ug/kg	440 J	300 J	220 J	11 J	1100 J
Benzo(a)pyrene	ug/kg	440 J	320 J	200 J	12 J	1100 J
Benzo(b)fluoranthene	ug/kg	850 J	630 J	280 J	19 J	1800 J
Benzo(g,h,i)perylene	ug/kg	2000 U	2000 U	1900 U	580 U	14000 U
Benzo(k)fluoranthene	ug/kg	360 J	220 J	140 J	6.4 J	650 J
Chrysene	ug/kg	630 J	430 J	250 J	11 J	1400 J
Dibenz(a,h)anthracene	ug/kg	21 J	2000 U	1900 U	580 U	14000 U
Fluoranthene	ug/kg	900 J	510 J	440 J	17 J	2400 J
Fluorene	ug/kg	13 J	8.3 J	12 J	580 U	14000 U
Indeno(1,2,3-cd)pyrene	ug/kg	79 J	66 J	1900 U	580 U	14000 U
Naphthalene	ug/kg	38 J	33 J	1900 U	1.7 J	14000 U
Phenanthrene	ug/kg	350 J	200 J	210 J	8.7 J	730 J
Pyrene	ug/kg	630 J	430 J	330 J	15 J	1900 J
Total solids	%	83	84	89	57	94
Metals						
Antimony	ug/kg	**9700**[bc]	**11000**[bc]	290	700	840
Arsenic	ug/kg	**8300**[bcdo]	**10000**[bcdo]	2300	**7400**[bcd]	2200
Barium	ug/kg	180000	180000	26000	120000	27000
Beryllium	ug/kg	550	500	140 J	150 J	180 J
Cadmium	ug/kg	**7500**[bcd]	**6300**[bc]	450	450	2000
Chromium	ug/kg	**37000**[bcd]	**40000**[bcd]	5800	15000	13000
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--
Cobalt	ug/kg	**8200**[bcd]	**9600**[bcd]	1800	1600	2500

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB207-12	SB207-12	SB207-12	SB207-12	SB212-12
Sample Identification		S-17360-110112-DD-187	S-17360-110112-DD-188	S-17360-110112-DD-189	S-17360-110112-DD-190	S-17360-110112-DD-191
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type			Duplicate			
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	**350000[d]**	**570000[d]**	7000	17000	**440000[d]**
Metals (continued)						
Iron	ug/kg	**52000000[bc]**	**48000000[bc]**	5300000	8900000	6400000
Lead	ug/kg	**470000 J[o]**	**530000 J[o]**	10000 J	4400 J	47000 J
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	270000	340000	120000	130000	160000
Mercury	ug/kg	120	**150[d]**	13 J	14 J	7.8 J
Molybdenum	ug/kg	**11000[bc]**	**12000[bc]**	360 J	**2200[b]**	**1700[b]**
Nickel	ug/kg	46000	64000	6100	8100	9300
Selenium	ug/kg	**490[d]**	320	150	**3400[d]**	260
Silver	ug/kg	840	**1800[d]**	30 J	48 J	99
Thallium	ug/kg	87	78	40 J	98	50
Vanadium	ug/kg	19000	24000	7400	10000	8800
Zinc	ug/kg	**440000[d]**	**670000[d]**	64000	42000	**10000000[bcd]**
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	630 U	780 U	370 U	580 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	**6100[o]**	**12000[o]**	200 J	9.7 J	39 J
Total PCBs	ug/kg	**6100[o]**	**12000[o]**	200 J	9.7 J	39 J

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB212-12	SB212-12	SB212-12	SB212-12	SB232-13
Sample Identification		S-17360-110112-DD-192	S-17360-110112-DD-193	S-17360-110112-DD-194	S-17360-110112-DD-195	SO-17360-042413-DR-050
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	4/24/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	360 U	900 U	30 J	2.5 J	950 U
Acenaphthene	ug/kg	360 U	900 U	19 J	410 U	360 U
Acenaphthylene	ug/kg	360 U	900 U	1900 U	410 U	360 U
Anthracene	ug/kg	2.4 J	11 J	64 J	410 U	360 U
Benzo(a)anthracene	ug/kg	26 J	110 J	530 J	2.9 J	910
Benzo(a)pyrene	ug/kg	29 J	93 J	450 J	2.5 J	1300
Benzo(b)fluoranthene	ug/kg	57 J	170 J	780 J	2.9 J	1700
Benzo(g,h,i)perylene	ug/kg	360 U	900 U	1900 U	410 U	1200
Benzo(k)fluoranthene	ug/kg	23 J	85 J	190 J	410 U	1500
Chrysene	ug/kg	34 J	130 J	620 J	2.9 J	1500
Dibenz(a,h)anthracene	ug/kg	360 U	900 U	30 J	410 U	330 J
Fluoranthene	ug/kg	45 J	240 J	1400 J	5 J	1600
Fluorene	ug/kg	0.7 J	900 U	15 J	410 U	360 U
Indeno(1,2,3-cd)pyrene	ug/kg	360 U	900 U	60 J	410 U	1000
Naphthalene	ug/kg	1 J	900 U	15 J	2.1 J	360 U
Phenanthrene	ug/kg	15 J	82 J	490 J	3.8 J	640
Pyrene	ug/kg	38 J	200 J	1000 J	4.2 J	2000
Total solids	%	93	93	87	80	--
Metals						
Antimony	ug/kg	420	220	700	140	1000
Arsenic	ug/kg	1400	1200	**6200**[bcd]	1500	**6000**[bcd]
Barium	ug/kg	21000	16000	34000	14000	50000
Beryllium	ug/kg	140 J	140 J	230 J	140 J	280
Cadmium	ug/kg	440	190	250	88	2500
Chromium	ug/kg	4800	5100	4600	5500	9600
Chromium III (trivalent)	ug/kg	--	--	--	--	9600
Chromium VI (hexavalent)	ug/kg	--	--	--	--	2400 U
Cobalt	ug/kg	1600	1400	1800	1500	3300

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB212-12	SB212-12	SB212-12	SB212-12	SB232-13
Sample Identification		S-17360-110112-DD-192	S-17360-110112-DD-193	S-17360-110112-DD-194	S-17360-110112-DD-195	SO-17360-042413-DR-050
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	4/24/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Copper	ug/kg	13000	5200	8800	4400	150000
Metals (continued)						
Iron	ug/kg	4100000	3900000	10000000	3600000	8900000
Lead	ug/kg	9100 J	5000 J	9900 J	3300 J	55000
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Manganese	ug/kg	100000	74000	84000	23000	200000
Mercury	ug/kg	50 U	7.1 J	8 J	15 J	96
Molybdenum	ug/kg	260 J	470 J	790 J	320 J	**1900**[b]
Nickel	ug/kg	4900	3600	4700	3900	14000
Selenium	ug/kg	150	130	260	**570**[d]	360 J
Silver	ug/kg	53	23 J	28 J	28 J	170 J
Thallium	ug/kg	33 J	49 J	140	67	430 U
Vanadium	ug/kg	6700	6300	8100	10000	8700
Zinc	ug/kg	20000	12000	32000	11000	110000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1242 (PCB-1242)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1254 (PCB-1254)	ug/kg	360 U	360 U	380 U	410 U	370 U
Aroclor-1260 (PCB-1260)	ug/kg	8.1 J	360 U	19 J	410 U	370 U
Total PCBs	ug/kg	8.1 J	0	19 J	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB232-13	SB232-13	SB232-13	SB232-13	SB239-13
Sample Identification		SO-17360-042413-DR-051	SO-17360-042413-DR-052	SO-17360-042413-DR-053	SO-17360-042413-DR-054	SO-17360-042413-DR-055
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type						
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27	AOI 27
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	190	27 J	160 U	170 U	--
Acenaphthene	ug/kg	37 U	36 U	61 U	63 U	--
Acenaphthylene	ug/kg	37 U	36 U	61 U	63 U	--
Anthracene	ug/kg	37 U	36 U	61 U	63 U	--
Benzo(a)anthracene	ug/kg	66	56	37 J	63 U	--
Benzo(a)pyrene	ug/kg	58	49	61 U	63 U	--
Benzo(b)fluoranthene	ug/kg	110	86	61 U	63 U	--
Benzo(g,h,i)perylene	ug/kg	68	51	61 U	63 U	--
Benzo(k)fluoranthene	ug/kg	68	61	61 U	63 U	--
Chrysene	ug/kg	100	90	40 J	63 U	--
Dibenz(a,h)anthracene	ug/kg	37 U	36 U	61 U	63 U	--
Fluoranthene	ug/kg	92	78	55 J	63 U	--
Fluorene	ug/kg	37 U	36 U	61 U	63 U	--
Indeno(1,2,3-cd)pyrene	ug/kg	56	48	61 U	63 U	--
Naphthalene	ug/kg	150	29 J	61 U	63 U	--
Phenanthrene	ug/kg	210	84	61 U	63 U	--
Pyrene	ug/kg	130	110	72	63 U	--
Total solids	%	--	--	--	--	--
Metals						
Antimony	ug/kg	620	250 J	410 J	330 J	--
Arsenic	ug/kg	5300	**17000**[bcdo]	3400	3600	--
Barium	ug/kg	74000	28000	100000	180000	--
Beryllium	ug/kg	500	220	230 J	34 J	--
Cadmium	ug/kg	1200	610	400	110 J	--
Chromium	ug/kg	4600	2800	12000	2000 J	2400
Chromium III (trivalent)	ug/kg	4600	2800	12000	2000	2400
Chromium VI (hexavalent)	ug/kg	2400 U	2400 U	17000 U	4100 U	2100 U
Cobalt	ug/kg	3100	1600	3600	460 J	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB232-13**	**SB232-13**	**SB232-13**	**SB232-13**	**SB239-13**
Sample Identification		**SO-17360-042413-DR-051**	**SO-17360-042413-DR-052**	**SO-17360-042413-DR-053**	**SO-17360-042413-DR-054**	**SO-17360-042413-DR-055**
Sample Date		**4/24/2013**	**4/24/2013**	**4/24/2013**	**4/24/2013**	**4/24/2013**
Sample Type						
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Copper	ug/kg	42000	6600	9800	2900 J	--
Metals (continued)						
Iron	ug/kg	3300000	1700000	9000000	2700000	--
Lead	ug/kg	27000	14000	8500	1000	--
Lead - coarse fraction	ug/kg	--	--	--	--	1200 J
Lead - fine fraction	ug/kg	--	--	--	--	2700 J
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	2000
Manganese	ug/kg	30000	30000	270000	160000	--
Mercury	ug/kg	31 J	20 J	68	5.1 J	--
Molybdenum	ug/kg	1300	480	930	1200	--
Nickel	ug/kg	9300	5300	9400	2300 J	--
Selenium	ug/kg	320 J	170 J	**1200[d]**	**1300 J[d]**	--
Silver	ug/kg	160 J	40 J	22 J	3300 U	--
Thallium	ug/kg	430 U	420 U	670 U	660 U	--
Vanadium	ug/kg	5600	4100	19000	6200	--
Zinc	ug/kg	50000	16000	23000	5100 J	--
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1221 (PCB-1221)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1232 (PCB-1232)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1242 (PCB-1242)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1248 (PCB-1248)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1254 (PCB-1254)	ug/kg	410 U	380 U	550 U	660 U	--
Aroclor-1260 (PCB-1260)	ug/kg	410 U	380 U	550 U	660 U	--
Total PCBs	ug/kg	0	0	0	0	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB240-13**
Sample Identification		**SO-17360-042413-DR-056**
Sample Date		**4/24/2013**
Sample Type		
Sample Depth		**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 27**
Semi-Volatile Organic Compounds (SVOCs)		
2-Methylnaphthalene	ug/kg	--
Acenaphthene	ug/kg	--
Acenaphthylene	ug/kg	--
Anthracene	ug/kg	--
Benzo(a)anthracene	ug/kg	--
Benzo(a)pyrene	ug/kg	--
Benzo(b)fluoranthene	ug/kg	--
Benzo(g,h,i)perylene	ug/kg	--
Benzo(k)fluoranthene	ug/kg	--
Chrysene	ug/kg	--
Dibenz(a,h)anthracene	ug/kg	--
Fluoranthene	ug/kg	--
Fluorene	ug/kg	--
Indeno(1,2,3-cd)pyrene	ug/kg	--
Naphthalene	ug/kg	--
Phenanthrene	ug/kg	--
Pyrene	ug/kg	--
Total solids	%	--
Metals		
Antimony	ug/kg	--
Arsenic	ug/kg	--
Barium	ug/kg	--
Beryllium	ug/kg	--
Cadmium	ug/kg	--
Chromium	ug/kg	16000
Chromium III (trivalent)	ug/kg	16000
Chromium VI (hexavalent)	ug/kg	2100 U
Cobalt	ug/kg	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB240-13**
Sample Identification		**SO-17360-042413-DR-056**
Sample Date		**4/24/2013**
Sample Type		
Sample Depth		**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 27**
Copper	ug/kg	--
Metals (continued)		
Iron	ug/kg	--
Lead	ug/kg	--
Lead - coarse fraction	ug/kg	7200 J
Lead - fine fraction	ug/kg	25000
Lead - total (calculated by fine/coarse fraction)	ug/kg	9400
Manganese	ug/kg	--
Mercury	ug/kg	--
Molybdenum	ug/kg	--
Nickel	ug/kg	--
Selenium	ug/kg	--
Silver	ug/kg	--
Thallium	ug/kg	--
Vanadium	ug/kg	--
Zinc	ug/kg	--
Polychlorinated biphenyl (PCBs)		
Aroclor-1016 (PCB-1016)	ug/kg	--
Aroclor-1221 (PCB-1221)	ug/kg	--
Aroclor-1232 (PCB-1232)	ug/kg	--
Aroclor-1242 (PCB-1242)	ug/kg	--
Aroclor-1248 (PCB-1248)	ug/kg	--
Aroclor-1254 (PCB-1254)	ug/kg	--
Aroclor-1260 (PCB-1260)	ug/kg	--
Total PCBs	ug/kg	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB277-13	SB277-13
Sample Identification		SO-017360-102213-MR-040	SO-017360-102213-MR-041	SO-017360-102213-MR-042	SO-017360-102213-MR-043
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	44 U	55 U	48 U	180 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	55 U	48 U	180 U
1,1,2-Trichloroethane	ug/kg	44 U	55 U	48 U	180 U
1,1-Dichloroethane	ug/kg	44 U	55 U	48 U	180 U
1,1-Dichloroethene	ug/kg	44 U	55 U	48 U	180 U
1,2,4-Trichlorobenzene	ug/kg	44 U	55 U	48 U	180 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	44 U	55 U	48 U	180 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	44 U	55 U	48 U	180 U
1,2-Dichlorobenzene	ug/kg	44 U	55 U	48 U	180 U
1,2-Dichloroethane	ug/kg	44 U	55 U	48 U	180 U
1,2-Dichloropropane	ug/kg	44 U	55 U	48 U	180 U
1,3-Dichlorobenzene	ug/kg	44 U	55 U	48 U	180 U
1,4-Dichlorobenzene	ug/kg	44 U	55 U	48 U	180 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	120 J	160 J	130 J	700 J
2-Hexanone	ug/kg	44 U	55 U	48 U	180 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	44 U	55 U	48 U	180 U
Acetone	ug/kg	150 U	180 U	160 U	1400
Benzene	ug/kg	44 U	55 U	48 U	180 U
Bromodichloromethane	ug/kg	44 U	55 U	48 U	180 U
Bromoform	ug/kg	44 U	55 U	48 U	180 U
Bromomethane (Methyl bromide)	ug/kg	110 U	140 U	120 U	440 U
Carbon disulfide	ug/kg	44 U	55 U	48 U	180 U
Carbon tetrachloride	ug/kg	44 U	55 U	48 U	180 U
Chlorobenzene	ug/kg	44 U	55 U	48 U	180 U
Chloroethane	ug/kg	150 U	180 U	160 U	590 U
Chloroform (Trichloromethane)	ug/kg	44 U	55 U	48 U	180 U
Chloromethane (Methyl chloride)	ug/kg	150 U	180 U	160 U	590 U
cis-1,2-Dichloroethene	ug/kg	44 U	55 U	48 U	180 U
cis-1,3-Dichloropropene	ug/kg	44 U	55 U	48 U	180 U
Cyclohexane	ug/kg	44 U	55 U	41 J	180 U
Dibromochloromethane	ug/kg	44 U	55 U	48 U	180 U
Dichlorodifluoromethane (CFC-12)	ug/kg	44 U	55 U	48 U	180 U
Ethylbenzene	ug/kg	44 U	55 U	48 U	180 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB277-13	SB277-13
Sample Identification		SO-017360-102213-MR-040	SO-017360-102213-MR-041	SO-017360-102213-MR-042	SO-017360-102213-MR-043
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	44 U	55 U	48 U	180 U
Methyl acetate	ug/kg	130 J	160 J	130 J	2100
Methyl cyclohexane	ug/kg	110	87	140	180 U
Methyl tert butyl ether (MTBE)	ug/kg	44 U	55 U	48 U	180 U
Methylene chloride	ug/kg	44 U	55 U	48 U	180 U
Styrene	ug/kg	44 U	55 U	48 U	180 U
Tetrachloroethene	ug/kg	44 U	55 U	48 U	180 U
Toluene	ug/kg	44 U	55 U	48 U	180 U
trans-1,2-Dichloroethene	ug/kg	44 U	55 U	48 U	180 U
trans-1,3-Dichloropropene	ug/kg	44 U	55 U	48 U	180 U
Trichloroethene	ug/kg	44 U	55 U	48 U	180 U
Trichlorofluoromethane (CFC-11)	ug/kg	44 U	55 U	48 U	180 U
Trifluorotrichloroethane (Freon 113)	ug/kg	44 U	55 U	48 U	180 U
Vinyl chloride	ug/kg	44 U	55 U	48 U	180 U
Xylenes (total)	ug/kg	130 U	170 U	140 U	530 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	94	46	7.2 U	81
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB277-13**	**SB277-13**	**SB277-13**	**SB277-13**
Sample Identification		**SO-017360-102213-MR-040**	**SO-017360-102213-MR-041**	**SO-017360-102213-MR-042**	**SO-017360-102213-MR-043**
Sample Date		**10/22/2013**	**10/22/2013**	**10/22/2013**	**10/22/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.7 U	7.5 U	7.2 U	10 U
Acenaphthylene	ug/kg	20	7.5 U	7.2 U	10 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	75	110	7.2 U	28
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	340	410	75	140
Benzo(a)pyrene	ug/kg	370	420	60	120
Benzo(b)fluoranthene	ug/kg	540	460	72	130
Benzo(g,h,i)perylene	ug/kg	280	300	60	100
Benzo(k)fluoranthene	ug/kg	330	410	53	120
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	490	500	69	150
Dibenz(a,h)anthracene	ug/kg	82	87	7.2 U	10 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB277-13	SB277-13
Sample Identification		SO-017360-102213-MR-040	SO-017360-102213-MR-041	SO-017360-102213-MR-042	SO-017360-102213-MR-043
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	590	790	110	230
Fluorene	ug/kg	20	60	7.2 U	10 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	240	250	38	69
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	58	24	7.2 U	54
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	380	570	67	210
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	540	720	90	210
Metals					
Antimony	ug/kg	560	650 J	260 J	570 J
Arsenic	ug/kg	4700	2700	1400	4600
Barium	ug/kg	82000	100000	12000	59000
Beryllium	ug/kg	290 J	210 J	76 J	120 J
Cadmium	ug/kg	530	480 J	110 J	190 J
Chromium	ug/kg	4900	11000	5100	8100
Cobalt	ug/kg	2500	2500	1600	2000 J
Copper	ug/kg	31000 J	16000 J	4700 J	8700 J
Iron	ug/kg	4300000	7100000	3900000	8300000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB277-13	SB277-13
Sample Identification		SO-017360-102213-MR-040	SO-017360-102213-MR-041	SO-017360-102213-MR-042	SO-017360-102213-MR-043
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	37000	100000	8500	3800
Manganese	ug/kg	41000 J	140000 J	94000 J	130000 J
Metals (continued)					
Mercury	ug/kg	23 J	9.9 J	36 J	76
Molybdenum	ug/kg	1100	930 J	380 J	**2000 J[b]**
Nickel	ug/kg	7900	9600	4900	5800
Selenium	ug/kg	410 J	2100 U	190 J	**2500 J[d]**
Silver	ug/kg	93 J	39 J	18 J	2800 U
Thallium	ug/kg	94 J	2100 U	48 J	87 J
Vanadium	ug/kg	5100 J	8900 J	6100 J	13000 J
Zinc	ug/kg	37000	**640000[d]**	110000	16000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1221 (PCB-1221)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1232 (PCB-1232)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1242 (PCB-1242)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1248 (PCB-1248)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1254 (PCB-1254)	ug/kg	93 U	91 U	87 U	120 U
Aroclor-1260 (PCB-1260)	ug/kg	93 U	91 U	87 U	120 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB278-13	SB278-13
Sample Identification		SO-017360-102213-MR-044	SO-017360-102213-MR-045	SO-017360-102213-MR-047	SO-017360-102213-MR-048
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	98 U	66 U	100 U	57 U
1,1,2,2-Tetrachloroethane	ug/kg	98 U	66 U	100 U	57 U
1,1,2-Trichloroethane	ug/kg	98 U	66 U	100 U	57 U
1,1-Dichloroethane	ug/kg	98 U	66 U	100 U	57 U
1,1-Dichloroethene	ug/kg	98 U	66 U	100 U	57 U
1,2,4-Trichlorobenzene	ug/kg	98 U	66 U	100 U	57 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	98 U	66 U	100 U	57 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	98 U	66 U	100 U	57 U
1,2-Dichlorobenzene	ug/kg	98 U	66 U	100 U	57 U
1,2-Dichloroethane	ug/kg	98 U	66 U	100 U	57 U
1,2-Dichloropropane	ug/kg	98 U	66 U	100 U	57 U
1,3-Dichlorobenzene	ug/kg	98 U	66 U	100 U	57 U
1,4-Dichlorobenzene	ug/kg	98 U	66 U	100 U	57 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	370 J	440 U	290 J	380 U
2-Hexanone	ug/kg	98 U	66 U	100 U	57 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	98 U	66 U	100 U	57 U
Acetone	ug/kg	510	220 U	340 U	190 U
Benzene	ug/kg	98 U	66 U	100 U	57 U
Bromodichloromethane	ug/kg	98 U	66 U	100 U	57 U
Bromoform	ug/kg	98 U	66 U	100 U	57 U
Bromomethane (Methyl bromide)	ug/kg	250 U	170 U	250 U	140 U
Carbon disulfide	ug/kg	98 U	66 U	100 U	57 U
Carbon tetrachloride	ug/kg	98 U	66 U	100 U	57 U
Chlorobenzene	ug/kg	98 U	66 U	100 U	57 U
Chloroethane	ug/kg	330 U	220 U	340 U	190 U
Chloroform (Trichloromethane)	ug/kg	98 U	66 U	100 U	57 U
Chloromethane (Methyl chloride)	ug/kg	330 U	220 U	340 U	190 U
cis-1,2-Dichloroethene	ug/kg	98 U	66 U	100 U	57 U
cis-1,3-Dichloropropene	ug/kg	98 U	66 U	100 U	57 U
Cyclohexane	ug/kg	98 U	66 U	100 U	57 U
Dibromochloromethane	ug/kg	98 U	66 U	100 U	57 U
Dichlorodifluoromethane (CFC-12)	ug/kg	98 U	66 U	100 U	57 U
Ethylbenzene	ug/kg	98 U	66 U	100 U	57 U

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB278-13	SB278-13
Sample Identification		SO-017360-102213-MR-044	SO-017360-102213-MR-045	SO-017360-102213-MR-047	SO-017360-102213-MR-048
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	98 U	66 U	100 U	57 U
Methyl acetate	ug/kg	1100	210 J	280 J	150 J
Methyl cyclohexane	ug/kg	98 U	66 U	230	240
Methyl tert butyl ether (MTBE)	ug/kg	98 U	66 U	100 U	57 U
Methylene chloride	ug/kg	98 U	66 U	100 U	57 U
Styrene	ug/kg	98 U	66 U	100 U	57 U
Tetrachloroethene	ug/kg	98 U	66 U	100 U	57 U
Toluene	ug/kg	98 U	66 U	52 J	42 J
trans-1,2-Dichloroethene	ug/kg	98 U	66 U	100 U	57 U
trans-1,3-Dichloropropene	ug/kg	98 U	66 U	100 U	57 U
Trichloroethene	ug/kg	98 U	66 U	100 U	57 U
Trichlorofluoromethane (CFC-11)	ug/kg	98 U	66 U	100 U	57 U
Trifluorotrichloroethane (Freon 113)	ug/kg	98 U	66 U	100 U	57 U
Vinyl chloride	ug/kg	98 U	66 U	100 U	57 U
Xylenes (total)	ug/kg	300 U	200 U	300 U	140 J
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	41	13 U	100	80 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB278-13	SB278-13
Sample Identification		SO-017360-102213-MR-044	SO-017360-102213-MR-045	SO-017360-102213-MR-047	SO-017360-102213-MR-048
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	8.6 U	13 U	8.1 U	80 U
Acenaphthylene	ug/kg	8.6 U	13 U	42	80 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	130	13 U	66	80 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	430	13 U	290	430
Benzo(a)pyrene	ug/kg	420	13 U	360	80 U
Benzo(b)fluoranthene	ug/kg	440	13 U	470	220
Benzo(g,h,i)perylene	ug/kg	260	13 U	240	340
Benzo(k)fluoranthene	ug/kg	380	13 U	350	80 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	500	13 U	500	250
Dibenz(a,h)anthracene	ug/kg	59	13 U	68	80 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB278-13	SB278-13
Sample Identification		SO-017360-102213-MR-044	SO-017360-102213-MR-045	SO-017360-102213-MR-047	SO-017360-102213-MR-048
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	870	13 U	420	460
Fluorene	ug/kg	52	13 U	8.1 U	80 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	210	13 U	190	80 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	38	13 U	72	80 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	660	13 U	310	500
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	740	13 U	460	330
Metals					
Antimony	ug/kg	400 J	370 J	690	1100 J
Arsenic	ug/kg	2900	2700 J	**33000**[bcdo]	**7900**[bcdo]
Barium	ug/kg	67000	210000	84000	41000
Beryllium	ug/kg	170 J	31 J	450 J	450 J
Cadmium	ug/kg	130 J	140 J	270	490 J
Chromium	ug/kg	7100	5000	8600	**31000**[bcd]
Cobalt	ug/kg	2100 J	940 J	5100	6500
Copper	ug/kg	8700 J	5100	38000 J	51000 J
Iron	ug/kg	7600000	5100000	7100000	8000000

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB277-13	SB277-13	SB278-13	SB278-13
Sample Identification		SO-017360-102213-MR-044	SO-017360-102213-MR-045	SO-017360-102213-MR-047	SO-017360-102213-MR-048
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	5400	220 J	16000	37000
Manganese	ug/kg	140000 J	120000	30000 J	130000 J
Metals (continued)					
Mercury	ug/kg	47	41 J	35 J	38 J
Molybdenum	ug/kg	620 J	**1600 J[b]**	**3100[b]**	**8600[bc]**
Nickel	ug/kg	5300	2900 J	22000	16000
Selenium	ug/kg	**700 J[d]**	**2000 J[d]**	**1200[d]**	2200 U
Silver	ug/kg	10 J	3100 U	83 J	260 J
Thallium	ug/kg	2300 U	140 J	640	150 J
Vanadium	ug/kg	11000 J	4600 J	12000 J	12000 J
Zinc	ug/kg	17000	6100	23000	100000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1221 (PCB-1221)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1232 (PCB-1232)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1242 (PCB-1242)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1248 (PCB-1248)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1254 (PCB-1254)	ug/kg	110 U	160 U	100 U	100 U
Aroclor-1260 (PCB-1260)	ug/kg	110 U	160 U	100 U	100 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB278-13	SB280-13	SB280-13	SB280-13
Sample Identification		SO-017360-102213-MR-049	SO-017360-102213-MR-051	SO-017360-102213-MR-052	SO-017360-102213-MR-053
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	1000 U	39 U	34 U	50 U
1,1,2,2-Tetrachloroethane	ug/kg	1000 U	39 U	34 U	50 U
1,1,2-Trichloroethane	ug/kg	1000 U	39 U	34 U	50 U
1,1-Dichloroethane	ug/kg	1000 U	39 U	34 U	50 U
1,1-Dichloroethene	ug/kg	1000 U	39 U	34 U	50 U
1,2,4-Trichlorobenzene	ug/kg	1000 U	39 U	34 U	50 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	1000 U	39 U	34 U	50 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	1000 U	39 U	34 U	50 U
1,2-Dichlorobenzene	ug/kg	1000 U	39 U	34 U	50 U
1,2-Dichloroethane	ug/kg	1000 U	39 U	34 U	50 U
1,2-Dichloropropane	ug/kg	1000 U	39 U	34 U	50 U
1,3-Dichlorobenzene	ug/kg	1000 U	39 U	34 U	50 U
1,4-Dichlorobenzene	ug/kg	1000 U	39 U	34 U	50 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	3600 J	96 J	100 J	330 U
2-Hexanone	ug/kg	1000 U	39 U	34 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1000 U	39 U	34 U	50 U
Acetone	ug/kg	6100	130 U	110 U	170 U
Benzene	ug/kg	1000 U	39 U	34 U	50 U
Bromodichloromethane	ug/kg	1000 U	39 U	34 U	50 U
Bromoform	ug/kg	1000 U	39 U	34 U	50 U
Bromomethane (Methyl bromide)	ug/kg	2500 U	97 U	23 J	120 U
Carbon disulfide	ug/kg	1000 U	39 U	33 J	50 U
Carbon tetrachloride	ug/kg	1000 U	39 U	34 U	50 U
Chlorobenzene	ug/kg	1000 U	39 U	34 U	50 U
Chloroethane	ug/kg	3400 U	130 U	110 U	170 U
Chloroform (Trichloromethane)	ug/kg	1000 U	39 U	34 U	50 U
Chloromethane (Methyl chloride)	ug/kg	3400 U	130 U	56 J	170 U
cis-1,2-Dichloroethene	ug/kg	1000 U	39 U	34 U	50 U
cis-1,3-Dichloropropene	ug/kg	1000 U	39 U	34 U	50 U
Cyclohexane	ug/kg	1000 U	39 U	34 U	50 U
Dibromochloromethane	ug/kg	1000 U	39 U	34 U	50 U
Dichlorodifluoromethane (CFC-12)	ug/kg	1000 U	39 U	34 U	50 U
Ethylbenzene	ug/kg	1000 U	39 U	34 U	50 U

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB278-13**	**SB280-13**	**SB280-13**	**SB280-13**
Sample Identification		**SO-017360-102213-MR-049**	**SO-017360-102213-MR-051**	**SO-017360-102213-MR-052**	**SO-017360-102213-MR-053**
Sample Date		**10/22/2013**	**10/22/2013**	**10/22/2013**	**10/22/2013**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
VOCs (continued)					
Isopropyl benzene	ug/kg	1000 U	39 U	34 U	50 U
Methyl acetate	ug/kg	11000	91 J	97 J	170 J
Methyl cyclohexane	ug/kg	1000 U	39 U	34 U	50 U
Methyl tert butyl ether (MTBE)	ug/kg	1000 U	39 U	34 U	50 U
Methylene chloride	ug/kg	1000 U	39 U	34 U	50 U
Styrene	ug/kg	1000 U	39 U	34 U	50 U
Tetrachloroethene	ug/kg	1000 U	39 U	34 U	50 U
Toluene	ug/kg	1000 U	39 U	34 U	50 U
trans-1,2-Dichloroethene	ug/kg	1000 U	39 U	34 U	50 U
trans-1,3-Dichloropropene	ug/kg	1000 U	39 U	34 U	50 U
Trichloroethene	ug/kg	1000 U	39 U	34 U	50 U
Trichlorofluoromethane (CFC-11)	ug/kg	1000 U	39 U	34 U	50 U
Trifluorotrichloroethane (Freon 113)	ug/kg	1000 U	39 U	34 U	50 U
Vinyl chloride	ug/kg	1000 U	39 U	34 U	50 U
Xylenes (total)	ug/kg	3000 U	120 U	100 U	150 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB278-13	SB280-13	SB280-13	SB280-13
Sample Identification		SO-017360-102213-MR-049	SO-017360-102213-MR-051	SO-017360-102213-MR-052	SO-017360-102213-MR-053
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Acenaphthylene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Benzo(a)pyrene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Benzo(b)fluoranthene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Benzo(g,h,i)perylene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Benzo(k)fluoranthene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Dibenz(a,h)anthracene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB278-13	SB280-13	SB280-13	SB280-13
Sample Identification		SO-017360-102213-MR-049	SO-017360-102213-MR-051	SO-017360-102213-MR-052	SO-017360-102213-MR-053
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Fluorene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	150 U	6.9 U	7.3 U	21
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	150 U	6.9 U	7.3 U	7.6 U
Metals					
Antimony	ug/kg	150 J	2900	1700	160 J
Arsenic	ug/kg	2600	670	640	1700
Barium	ug/kg	37000	2700	3600	12000
Beryllium	ug/kg	300 J	7.3 J	8.6 J	76 J
Cadmium	ug/kg	680	76 J	56 J	120 J
Chromium	ug/kg	7500	**30000**[d]	12000	4700
Cobalt	ug/kg	650 J	600	310 J	590
Copper	ug/kg	17000 J	6000 J	2700 J	5100 J
Iron	ug/kg	4700000	3900000	2900000	2500000

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB278-13	SB280-13	SB280-13	SB280-13
Sample Identification		SO-017360-102213-MR-049	SO-017360-102213-MR-051	SO-017360-102213-MR-052	SO-017360-102213-MR-053
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	2900	13000	36000	3200
Manganese	ug/kg	25000 J	49000 J	29000 J	25000 J
Metals (continued)					
Mercury	ug/kg	68 J	21 J	17 J	37 J
Molybdenum	ug/kg	**2400[b]**	**26000[bc]**	**11000[bc]**	630
Nickel	ug/kg	8600	25000	7700	2300
Selenium	ug/kg	**3600[d]**	410 U	390 U	**700[d]**
Silver	ug/kg	41 J	380 J	450	23 J
Thallium	ug/kg	87 J	410 U	12 J	45 J
Vanadium	ug/kg	41000 J	310 J	97 J	8700 J
Zinc	ug/kg	2800	4800	9500	4500
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1221 (PCB-1221)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1232 (PCB-1232)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1242 (PCB-1242)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1248 (PCB-1248)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1254 (PCB-1254)	ug/kg	290 UJ	86 U	91 UJ	95 U
Aroclor-1260 (PCB-1260)	ug/kg	290 UJ	86 U	91 UJ	95 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB282-13	SB282-13	SB282-13	SB282-13
Sample Identification		SO-017360-102213-MR-036	SO-017360-102213-MR-037	SO-017360-102213-MR-038	SO-017360-102213-MR-039
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	48 U	39 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	48 U	39 U	43 U
1,1,2-Trichloroethane	ug/kg	34 U	48 U	39 U	43 U
1,1-Dichloroethane	ug/kg	34 U	48 U	39 U	43 U
1,1-Dichloroethene	ug/kg	34 U	48 U	39 U	43 U
1,2,4-Trichlorobenzene	ug/kg	34 U	48 U	39 U	43 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	48 U	39 U	43 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	48 U	39 U	43 U
1,2-Dichlorobenzene	ug/kg	34 U	48 U	39 U	43 U
1,2-Dichloroethane	ug/kg	34 U	48 U	39 U	43 U
1,2-Dichloropropane	ug/kg	34 U	48 U	39 U	43 U
1,3-Dichlorobenzene	ug/kg	34 U	48 U	39 U	43 U
1,4-Dichlorobenzene	ug/kg	34 U	48 U	39 U	43 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	320 U	260 U	290 U
2-Hexanone	ug/kg	34 U	48 U	39 U	43 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	48 U	39 U	43 U
Acetone	ug/kg	110 U	160 U	130 U	140 U
Benzene	ug/kg	34 U	48 U	39 U	43 U
Bromodichloromethane	ug/kg	34 U	48 U	39 U	43 U
Bromoform	ug/kg	34 U	48 U	39 U	43 U
Bromomethane (Methyl bromide)	ug/kg	84 U	120 U	98 U	110 U
Carbon disulfide	ug/kg	34 U	48 U	39 U	43 U
Carbon tetrachloride	ug/kg	34 U	48 U	39 U	43 U
Chlorobenzene	ug/kg	34 U	48 U	39 U	43 U
Chloroethane	ug/kg	110 U	160 U	130 U	140 U
Chloroform (Trichloromethane)	ug/kg	34 U	48 U	39 U	43 U
Chloromethane (Methyl chloride)	ug/kg	110 U	160 U	130 U	140 U
cis-1,2-Dichloroethene	ug/kg	34 U	48 U	39 U	43 U
cis-1,3-Dichloropropene	ug/kg	34 U	48 U	39 U	43 U
Cyclohexane	ug/kg	34 U	48 U	39 U	43 U
Dibromochloromethane	ug/kg	34 U	48 U	39 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	48 U	39 U	43 U
Ethylbenzene	ug/kg	34 U	48 U	39 U	43 U

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB282-13**	**SB282-13**	**SB282-13**	**SB282-13**
Sample Identification		**SO-017360-102213-MR-036**	**SO-017360-102213-MR-037**	**SO-017360-102213-MR-038**	**SO-017360-102213-MR-039**
Sample Date		**10/22/2013**	**10/22/2013**	**10/22/2013**	**10/22/2013**
Sample Type					
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	48 U	39 U	43 U
Methyl acetate	ug/kg	220 U	320 U	260 U	290 U
Methyl cyclohexane	ug/kg	34 U	48 U	39 U	43 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	48 U	39 U	43 U
Methylene chloride	ug/kg	34 U	48 U	39 U	43 U
Styrene	ug/kg	34 U	48 U	39 U	43 U
Tetrachloroethene	ug/kg	34 U	48 U	39 U	43 U
Toluene	ug/kg	34 U	48 U	39 U	43 U
trans-1,2-Dichloroethene	ug/kg	34 U	48 U	39 U	43 U
trans-1,3-Dichloropropene	ug/kg	34 U	48 U	39 U	43 U
Trichloroethene	ug/kg	34 U	48 U	39 U	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	48 U	39 U	43 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	48 U	39 U	43 U
Vinyl chloride	ug/kg	34 U	48 U	39 U	43 U
Xylenes (total)	ug/kg	100 U	150 U	120 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	6.9 U	8.2 U	38	7.1 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB282-13	SB282-13	SB282-13	SB282-13
Sample Identification		SO-017360-102213-MR-036	SO-017360-102213-MR-037	SO-017360-102213-MR-038	SO-017360-102213-MR-039
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Acenaphthylene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	77	8.2 U	38	7.1 U
Benzo(a)pyrene	ug/kg	75	8.2 U	7.8 U	7.1 U
Benzo(b)fluoranthene	ug/kg	80	8.2 U	19	7.1 U
Benzo(g,h,i)perylene	ug/kg	140	8.2 U	35	31
Benzo(k)fluoranthene	ug/kg	68	8.2 U	7.8 U	7.1 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	72	8.2 U	23	7.1 U
Dibenz(a,h)anthracene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB282-13**	**SB282-13**	**SB282-13**	**SB282-13**
Sample Identification		**SO-017360-102213-MR-036**	**SO-017360-102213-MR-037**	**SO-017360-102213-MR-038**	**SO-017360-102213-MR-039**
Sample Date		**10/22/2013**	**10/22/2013**	**10/22/2013**	**10/22/2013**
Sample Type					
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	82	8.2 U	33	7.1 U
Fluorene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	65	8.2 U	7.8 U	7.1 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	6.9 U	8.2 U	7.8 U	7.1 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	37	8.2 U	40	7.1 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	78	8.2 U	26	7.1 U
Metals					
Antimony	ug/kg	1400	82 J	66 J	69 J
Arsenic	ug/kg	630	740	750	1500
Barium	ug/kg	1600 J	37000	32000	11000
Beryllium	ug/kg	14 J	140 J	100 J	160 J
Cadmium	ug/kg	84 J	230	260	48 J
Chromium	ug/kg	**31000[bcd]**	4200	3900	4800
Cobalt	ug/kg	1200	610	650	2000
Copper	ug/kg	6500	3400 J	3400 J	6500 J
Iron	ug/kg	9300000	2000000	2000000	3700000

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB282-13	SB282-13	SB282-13	SB282-13
Sample Identification		SO-017360-102213-MR-036	SO-017360-102213-MR-037	SO-017360-102213-MR-038	SO-017360-102213-MR-039
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	31000	3800	4000	2100
Manganese	ug/kg	110000 J	20000 J	23000 J	26000 J
Metals (continued)					
Mercury	ug/kg	43 U	37 J	28 J	38 J
Molybdenum	ug/kg	**35000[bc]**	200 J	210 J	530
Nickel	ug/kg	15000	2900	3100	3800
Selenium	ug/kg	390 U	**540[d]**	**480[d]**	**420[d]**
Silver	ug/kg	320 J	28 J	28 J	18 J
Thallium	ug/kg	390 U	81 J	67 J	64 J
Vanadium	ug/kg	390 U	7300 J	6700 J	10000 J
Zinc	ug/kg	5200	5800	6500	8300
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	87 U	100 U	98 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	87 U	100 U	98 U	350 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB284-13	SB284-13	SB284-13	SB284-13
Sample Identification		SO-017360-102213-MR-030	SO-017360-102213-MR-031	SO-017360-102213-MR-032	SO-017360-102213-MR-033
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	37 U	38 U	35 U	44 U
1,1,2,2-Tetrachloroethane	ug/kg	37 U	38 U	35 U	44 U
1,1,2-Trichloroethane	ug/kg	37 U	38 U	35 U	44 U
1,1-Dichloroethane	ug/kg	37 U	38 U	35 U	44 U
1,1-Dichloroethene	ug/kg	37 U	38 U	35 U	44 U
1,2,4-Trichlorobenzene	ug/kg	37 U	38 U	35 U	44 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	37 U	38 U	35 U	44 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	37 U	38 U	35 U	44 U
1,2-Dichlorobenzene	ug/kg	37 U	38 U	35 U	44 U
1,2-Dichloroethane	ug/kg	37 U	38 U	35 U	44 U
1,2-Dichloropropane	ug/kg	37 U	38 U	35 U	44 U
1,3-Dichlorobenzene	ug/kg	37 U	38 U	35 U	44 U
1,4-Dichlorobenzene	ug/kg	37 U	38 U	35 U	44 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	260 U	230 U	290 U
2-Hexanone	ug/kg	37 U	38 U	35 U	44 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	37 U	38 U	35 U	44 U
Acetone	ug/kg	120 U	130 U	120 U	150 U
Benzene	ug/kg	37 U	38 U	35 U	44 U
Bromodichloromethane	ug/kg	37 U	38 U	35 U	44 U
Bromoform	ug/kg	37 U	38 U	35 U	44 U
Bromomethane (Methyl bromide)	ug/kg	93 U	96 U	87 U	110 U
Carbon disulfide	ug/kg	37 U	38 U	35 U	44 U
Carbon tetrachloride	ug/kg	37 U	38 U	35 U	44 U
Chlorobenzene	ug/kg	37 U	38 U	35 U	44 U
Chloroethane	ug/kg	120 U	130 U	120 U	150 U
Chloroform (Trichloromethane)	ug/kg	37 U	38 U	35 U	44 U
Chloromethane (Methyl chloride)	ug/kg	120 U	130 U	120 U	150 U
cis-1,2-Dichloroethene	ug/kg	37 U	38 U	35 U	44 U
cis-1,3-Dichloropropene	ug/kg	37 U	38 U	35 U	44 U
Cyclohexane	ug/kg	37 U	38 U	35 U	44 U
Dibromochloromethane	ug/kg	37 U	38 U	35 U	44 U
Dichlorodifluoromethane (CFC-12)	ug/kg	37 U	38 U	35 U	44 U
Ethylbenzene	ug/kg	37 U	38 U	35 U	44 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB284-13	SB284-13	SB284-13	SB284-13
Sample Identification		SO-017360-102213-MR-030	SO-017360-102213-MR-031	SO-017360-102213-MR-032	SO-017360-102213-MR-033
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	37 U	38 U	35 U	44 U
Methyl acetate	ug/kg	250 U	260 U	230 U	290 U
Methyl cyclohexane	ug/kg	37 U	38 U	35 U	44 U
Methyl tert butyl ether (MTBE)	ug/kg	37 U	38 U	35 U	44 U
Methylene chloride	ug/kg	37 U	38 U	35 U	44 U
Styrene	ug/kg	37 U	38 U	35 U	44 U
Tetrachloroethene	ug/kg	37 U	38 U	35 U	44 U
Toluene	ug/kg	37 U	38 U	35 U	44 U
trans-1,2-Dichloroethene	ug/kg	37 U	38 U	35 U	44 U
trans-1,3-Dichloropropene	ug/kg	37 U	38 U	35 U	44 U
Trichloroethene	ug/kg	37 U	38 U	35 U	44 U
Trichlorofluoromethane (CFC-11)	ug/kg	37 U	38 U	35 U	44 U
Trifluorotrichloroethane (Freon 113)	ug/kg	37 U	38 U	35 U	44 U
Vinyl chloride	ug/kg	37 U	38 U	35 U	44 U
Xylenes (total)	ug/kg	110 U	120 U	100 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB284-13	SB284-13	SB284-13	SB284-13
Sample Identification		SO-017360-102213-MR-030	SO-017360-102213-MR-031	SO-017360-102213-MR-032	SO-017360-102213-MR-033
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Acenaphthylene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	41 J	7.1 U	7.0 U	7.3 U
Benzo(a)pyrene	ug/kg	27 J	7.1 U	7.0 U	7.3 U
Benzo(b)fluoranthene	ug/kg	32 J	7.1 U	7.0 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	39 J	7.1 U	7.0 U	7.3 U
Benzo(k)fluoranthene	ug/kg	23 J	7.1 U	7.0 U	7.3 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	30 J	7.1 U	7.0 U	7.3 U
Dibenz(a,h)anthracene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB284-13	SB284-13	SB284-13	SB284-13
Sample Identification		SO-017360-102213-MR-030	SO-017360-102213-MR-031	SO-017360-102213-MR-032	SO-017360-102213-MR-033
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	32 J	7.1 U	7.0 U	7.3 U
Fluorene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	7.2 U	7.1 U	7.0 U	7.3 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	29 J	7.1 U	7.0 U	7.3 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	29 J	7.1 U	7.0 U	7.3 U
Metals					
Antimony	ug/kg	3400 J	990 J	91 J	65 J
Arsenic	ug/kg	1600	1700	1200	1400
Barium	ug/kg	9600 J	7400 J	6500 J	11000 J
Beryllium	ug/kg	76 J	37 J	120 J	110 J
Cadmium	ug/kg	520	480	29 J	97 J
Chromium	ug/kg	15000	**22000**[d]	5400	7200
Cobalt	ug/kg	1100	1100	1600	2000
Copper	ug/kg	4500	5100	1200	4900
Iron	ug/kg	7400000	7600000	3800000	5000000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB284-13	SB284-13	SB284-13	SB284-13
Sample Identification		SO-017360-102213-MR-030	SO-017360-102213-MR-031	SO-017360-102213-MR-032	SO-017360-102213-MR-033
Sample Date		10/22/2013	10/22/2013	10/22/2013	10/22/2013
Sample Type			Duplicate		
Sample Depth		(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	5200	5700	1900	2400
Manganese	ug/kg	79000 J	95000 J	24000 J	37000 J
Metals (continued)					
Mercury	ug/kg	10 J	13 J	8.6 J	25 J
Molybdenum	ug/kg	**16000[bc]**	**23000[bc]**	200 J	360 J
Nickel	ug/kg	12000	17000	3500	5700
Selenium	ug/kg	180 J	110 J	84 J	320 J
Silver	ug/kg	**1300[d]**	**1800[d]**	5.9 J	12 J
Thallium	ug/kg	33 J	28 J	24 J	44 J
Vanadium	ug/kg	6600	3400	8200	11000
Zinc	ug/kg	15000	19000	5400	9400
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1221 (PCB-1221)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1232 (PCB-1232)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1242 (PCB-1242)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1248 (PCB-1248)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1254 (PCB-1254)	ug/kg	86 U	86 U	85 U	93 U
Aroclor-1260 (PCB-1260)	ug/kg	86 U	86 U	85 U	93 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB290-13**
Sample Identification		**SB-017360-102113-MR-005**	**SB-017360-102113-MR-006**	**SB-017360-102113-MR-007**	**SB-017360-102113-MR-008**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	42 U	33 U	34 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	42 U	33 U	34 U
1,1,2-Trichloroethane	ug/kg	34 U	42 U	33 U	34 U
1,1-Dichloroethane	ug/kg	34 U	42 U	33 U	34 U
1,1-Dichloroethene	ug/kg	34 U	42 U	33 U	34 U
1,2,4-Trichlorobenzene	ug/kg	34 U	42 U	33 U	34 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	42 U	33 U	34 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	42 U	33 U	34 U
1,2-Dichlorobenzene	ug/kg	34 U	42 U	33 U	34 U
1,2-Dichloroethane	ug/kg	34 U	42 U	33 U	34 U
1,2-Dichloropropane	ug/kg	34 U	42 U	33 U	34 U
1,3-Dichlorobenzene	ug/kg	34 U	42 U	33 U	34 U
1,4-Dichlorobenzene	ug/kg	34 U	42 U	33 U	34 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	280 U	220 U	220 U
2-Hexanone	ug/kg	34 U	42 U	33 U	34 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	42 U	33 U	34 U
Acetone	ug/kg	110 U	140 U	210	110 U
Benzene	ug/kg	34 U	42 U	33 U	34 U
Bromodichloromethane	ug/kg	34 U	42 U	33 U	34 U
Bromoform	ug/kg	34 U	42 U	33 U	34 U
Bromomethane (Methyl bromide)	ug/kg	85 U	100 U	83 U	84 U
Carbon disulfide	ug/kg	34 U	42 U	33 U	34 U
Carbon tetrachloride	ug/kg	34 U	42 U	33 U	34 U
Chlorobenzene	ug/kg	34 U	42 U	33 U	34 U
Chloroethane	ug/kg	110 U	140 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	34 U	42 U	33 U	34 U
Chloromethane (Methyl chloride)	ug/kg	110 U	140 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	34 U	42 U	33 U	34 U
cis-1,3-Dichloropropene	ug/kg	34 U	42 U	33 U	34 U
Cyclohexane	ug/kg	34 U	42 U	33 U	34 U
Dibromochloromethane	ug/kg	34 U	42 U	33 U	34 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	42 U	33 U	34 U
Ethylbenzene	ug/kg	34 U	42 U	13 J	15 J

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB290-13**
Sample Identification		**SB-017360-102113-MR-005**	**SB-017360-102113-MR-006**	**SB-017360-102113-MR-007**	**SB-017360-102113-MR-008**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	42 U	15 J	65
Methyl acetate	ug/kg	230 U	280 U	250	220 U
Methyl cyclohexane	ug/kg	34 U	42 U	33 U	34 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	42 U	33 U	34 U
Methylene chloride	ug/kg	34 U	42 U	33 U	34 U
Styrene	ug/kg	34 U	42 U	33 U	34 U
Tetrachloroethene	ug/kg	34 U	42 U	33 U	34 U
Toluene	ug/kg	34 U	42 U	22 J	34 U
trans-1,2-Dichloroethene	ug/kg	34 U	42 U	33 U	34 U
trans-1,3-Dichloropropene	ug/kg	34 U	42 U	33 U	34 U
Trichloroethene	ug/kg	34 U	42 U	33 U	34 U
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	42 U	33 U	34 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	42 U	33 U	34 U
Vinyl chloride	ug/kg	34 U	42 U	33 U	34 U
Xylenes (total)	ug/kg	100 U	130 U	51 J	100
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB290-13	SB290-13	SB290-13	SB290-13
Sample Identification		SB-017360-102113-MR-005	SB-017360-102113-MR-006	SB-017360-102113-MR-007	SB-017360-102113-MR-008
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB290-13**
Sample Identification		**SB-017360-102113-MR-005**	**SB-017360-102113-MR-006**	**SB-017360-102113-MR-007**	**SB-017360-102113-MR-008**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB290-13**
Sample Identification		**SB-017360-102113-MR-005**	**SB-017360-102113-MR-006**	**SB-017360-102113-MR-007**	**SB-017360-102113-MR-008**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB291-13**
Sample Identification		**SB-017360-102113-MR-010**	**SB-017360-102113-MR-009**	**SB-017360-102113-MR-011**	**SB-017360-102113-MR-013**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(12-14) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	660 U	32 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	660 U	32 U	42 U
1,1,2-Trichloroethane	ug/kg	34 U	660 U	32 U	42 U
1,1-Dichloroethane	ug/kg	34 U	660 U	32 U	42 U
1,1-Dichloroethene	ug/kg	34 U	660 U	32 U	42 U
1,2,4-Trichlorobenzene	ug/kg	34 U	660 U	32 U	42 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	660 U	32 U	42 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	660 U	32 U	42 U
1,2-Dichlorobenzene	ug/kg	34 U	660 U	32 U	42 U
1,2-Dichloroethane	ug/kg	34 U	660 U	32 U	42 U
1,2-Dichloropropane	ug/kg	34 U	660 U	32 U	42 U
1,3-Dichlorobenzene	ug/kg	34 U	660 U	32 U	42 U
1,4-Dichlorobenzene	ug/kg	34 U	660 U	32 U	42 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	4400 U	210 U	280 U
2-Hexanone	ug/kg	34 U	660 U	32 U	42 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	660 U	32 U	42 U
Acetone	ug/kg	110 U	2200 U	110 U	140 U
Benzene	ug/kg	34 U	660 U	32 U	42 U
Bromodichloromethane	ug/kg	34 U	660 U	32 U	42 U
Bromoform	ug/kg	34 U	660 U	32 U	42 U
Bromomethane (Methyl bromide)	ug/kg	86 U	1600 U	80 U	100 U
Carbon disulfide	ug/kg	34 U	660 U	32 U	42 U
Carbon tetrachloride	ug/kg	34 U	660 U	32 U	42 U
Chlorobenzene	ug/kg	34 U	660 U	32 U	42 U
Chloroethane	ug/kg	110 U	2200 U	110 U	140 U
Chloroform (Trichloromethane)	ug/kg	34 U	660 U	32 U	42 U
Chloromethane (Methyl chloride)	ug/kg	110 U	2200 U	110 U	140 U
cis-1,2-Dichloroethene	ug/kg	34 U	660 U	32 U	42 U
cis-1,3-Dichloropropene	ug/kg	34 U	660 U	32 U	42 U
Cyclohexane	ug/kg	34 U	660 U	32 U	42 U
Dibromochloromethane	ug/kg	34 U	660 U	32 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	660 U	32 U	42 U
Ethylbenzene	ug/kg	17 J	660 U	32 U	42 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB291-13**
Sample Identification		**SB-017360-102113-MR-010**	**SB-017360-102113-MR-009**	**SB-017360-102113-MR-011**	**SB-017360-102113-MR-013**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(12-14) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
VOCs (continued)					
Isopropyl benzene	ug/kg	77	660 U	32 U	42 U
Methyl acetate	ug/kg	230 U	4400 U	210 U	280 U
Methyl cyclohexane	ug/kg	34 U	660 U	32 U	42 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	660 U	32 U	42 U
Methylene chloride	ug/kg	34 U	660 U	32 U	42 U
Styrene	ug/kg	34 U	660 U	32 U	42 U
Tetrachloroethene	ug/kg	34 U	660 U	32 U	42 U
Toluene	ug/kg	34 U	660 U	32 U	42 U
trans-1,2-Dichloroethene	ug/kg	34 U	660 U	32 U	42 U
trans-1,3-Dichloropropene	ug/kg	34 U	660 U	32 U	42 U
Trichloroethene	ug/kg	34 U	660 U	32 U	**480**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	660 U	32 U	42 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	660 U	32 U	42 U
Vinyl chloride	ug/kg	34 U	660 U	32 U	42 U
Xylenes (total)	ug/kg	120	2000 U	96 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB290-13	SB290-13	SB290-13	SB291-13
Sample Identification		SB-017360-102113-MR-010	SB-017360-102113-MR-009	SB-017360-102113-MR-011	SB-017360-102113-MR-013
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(12-14) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB290-13**	**SB290-13**	**SB290-13**	**SB291-13**
Sample Identification		**SB-017360-102113-MR-010**	**SB-017360-102113-MR-009**	**SB-017360-102113-MR-011**	**SB-017360-102113-MR-013**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(12-14) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB290-13	SB290-13	SB290-13	SB291-13
Sample Identification		SB-017360-102113-MR-010	SB-017360-102113-MR-009	SB-017360-102113-MR-011	SB-017360-102113-MR-013
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(12-14) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB291-13	SB291-13	SB291-13	SB291-13
Sample Identification		SB-017360-102113-MR-014	SB-017360-102113-MR-015	SB-017360-102113-MR-016	SB-017360-102113-MR-017
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	42 U	38 U	49 U	35 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	38 U	49 U	35 U
1,1,2-Trichloroethane	ug/kg	42 U	38 U	49 U	35 U
1,1-Dichloroethane	ug/kg	42 U	38 U	49 U	35 U
1,1-Dichloroethene	ug/kg	42 U	38 U	49 U	35 U
1,2,4-Trichlorobenzene	ug/kg	42 U	38 U	49 U	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	42 U	38 U	49 U	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	42 U	38 U	49 U	35 U
1,2-Dichlorobenzene	ug/kg	42 U	38 U	49 U	35 U
1,2-Dichloroethane	ug/kg	42 U	38 U	49 U	35 U
1,2-Dichloropropane	ug/kg	42 U	38 U	49 U	35 U
1,3-Dichlorobenzene	ug/kg	42 U	38 U	49 U	35 U
1,4-Dichlorobenzene	ug/kg	42 U	38 U	49 U	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	280 U	250 U	330 U	230 U
2-Hexanone	ug/kg	42 U	38 U	49 U	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	42 U	38 U	49 U	35 U
Acetone	ug/kg	140 U	130 U	160 U	120 U
Benzene	ug/kg	42 U	38 U	49 U	35 U
Bromodichloromethane	ug/kg	42 U	38 U	49 U	35 U
Bromoform	ug/kg	42 U	38 U	49 U	35 U
Bromomethane (Methyl bromide)	ug/kg	110 U	95 U	120 U	87 U
Carbon disulfide	ug/kg	42 U	38 U	49 U	35 U
Carbon tetrachloride	ug/kg	42 U	38 U	49 U	35 U
Chlorobenzene	ug/kg	42 U	38 U	49 U	35 U
Chloroethane	ug/kg	140 U	130 U	160 U	120 U
Chloroform (Trichloromethane)	ug/kg	42 U	38 U	49 U	35 U
Chloromethane (Methyl chloride)	ug/kg	140 U	130 U	160 U	120 U
cis-1,2-Dichloroethene	ug/kg	42 U	38 U	49 U	35 U
cis-1,3-Dichloropropene	ug/kg	42 U	38 U	49 U	35 U
Cyclohexane	ug/kg	42 U	38 U	49 U	35 U
Dibromochloromethane	ug/kg	42 U	38 UJ	49 U	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	42 U	38 U	49 U	35 U
Ethylbenzene	ug/kg	42 U	38 U	49 U	35 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB291-13**	**SB291-13**	**SB291-13**	**SB291-13**
Sample Identification		**SB-017360-102113-MR-014**	**SB-017360-102113-MR-015**	**SB-017360-102113-MR-016**	**SB-017360-102113-MR-017**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
VOCs (continued)					
Isopropyl benzene	ug/kg	42 U	38 U	49 U	35 U
Methyl acetate	ug/kg	280 U	250 U	330 U	230 U
Methyl cyclohexane	ug/kg	42 U	38 U	49 U	35 U
Methyl tert butyl ether (MTBE)	ug/kg	42 U	38 U	49 U	35 U
Methylene chloride	ug/kg	42 U	38 U	49 U	35 U
Styrene	ug/kg	42 U	38 U	49 U	35 U
Tetrachloroethene	ug/kg	42 U	38 U	49 U	35 U
Toluene	ug/kg	42 U	38 U	49 U	35 U
trans-1,2-Dichloroethene	ug/kg	42 U	38 U	49 U	35 U
trans-1,3-Dichloropropene	ug/kg	42 U	38 U	49 U	35 U
Trichloroethene	ug/kg	**410[bc]**	**1400[bce]**	**2000[bcef]**	35 U
Trichlorofluoromethane (CFC-11)	ug/kg	42 U	38 U	49 U	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	42 U	38 U	49 U	35 U
Vinyl chloride	ug/kg	42 U	38 U	49 U	35 U
Xylenes (total)	ug/kg	130 U	110 U	150 U	100 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB291-13	SB291-13	SB291-13	SB291-13
Sample Identification		SB-017360-102113-MR-014	SB-017360-102113-MR-015	SB-017360-102113-MR-016	SB-017360-102113-MR-017
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB291-13**	**SB291-13**	**SB291-13**	**SB291-13**
Sample Identification		**SB-017360-102113-MR-014**	**SB-017360-102113-MR-015**	**SB-017360-102113-MR-016**	**SB-017360-102113-MR-017**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB291-13	SB291-13	SB291-13	SB291-13
Sample Identification		SB-017360-102113-MR-014	SB-017360-102113-MR-015	SB-017360-102113-MR-016	SB-017360-102113-MR-017
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB292-13	SB292-13	SB292-13	SB292-13
Sample Identification		SO-017360-102113-MR-018	SO-017360-102113-MR-019	SO-017360-102113-MR-020	SO-017360-102113-MR-021
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	34 U	37 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	38 U	34 U	37 U	37 U
1,1,2-Trichloroethane	ug/kg	38 U	34 U	37 U	37 U
1,1-Dichloroethane	ug/kg	38 U	34 U	37 U	37 U
1,1-Dichloroethene	ug/kg	38 U	34 U	37 U	37 U
1,2,4-Trichlorobenzene	ug/kg	38 U	34 U	37 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	38 U	34 U	37 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	38 U	34 U	37 U	37 U
1,2-Dichlorobenzene	ug/kg	38 U	34 U	37 U	37 U
1,2-Dichloroethane	ug/kg	38 U	34 U	37 U	37 U
1,2-Dichloropropane	ug/kg	38 U	34 U	37 U	37 U
1,3-Dichlorobenzene	ug/kg	38 U	34 U	37 U	37 U
1,4-Dichlorobenzene	ug/kg	38 U	34 U	37 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	220 U	250 U	250 U
2-Hexanone	ug/kg	38 U	34 U	37 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	38 U	34 U	37 U	37 U
Acetone	ug/kg	130 U	110 U	120 U	120 U
Benzene	ug/kg	38 U	34 U	37 U	37 U
Bromodichloromethane	ug/kg	38 U	34 U	37 U	37 U
Bromoform	ug/kg	38 U	34 U	37 U	37 U
Bromomethane (Methyl bromide)	ug/kg	95 U	84 U	93 U	93 U
Carbon disulfide	ug/kg	38 U	34 U	37 U	37 U
Carbon tetrachloride	ug/kg	38 U	34 U	37 U	37 U
Chlorobenzene	ug/kg	38 U	34 U	37 U	37 U
Chloroethane	ug/kg	130 U	110 U	120 U	120 U
Chloroform (Trichloromethane)	ug/kg	38 U	34 U	37 U	37 U
Chloromethane (Methyl chloride)	ug/kg	130 U	110 U	120 U	120 U
cis-1,2-Dichloroethene	ug/kg	38 U	34 U	37 U	37 U
cis-1,3-Dichloropropene	ug/kg	38 U	34 U	37 U	37 U
Cyclohexane	ug/kg	38 U	34 U	37 U	37 U
Dibromochloromethane	ug/kg	38 U	34 U	37 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	38 U	34 U	37 U	37 U
Ethylbenzene	ug/kg	38 U	34 U	37 U	37 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB292-13	SB292-13	SB292-13	SB292-13
Sample Identification		SO-017360-102113-MR-018	SO-017360-102113-MR-019	SO-017360-102113-MR-020	SO-017360-102113-MR-021
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	38 U	34 U	37 U	37 U
Methyl acetate	ug/kg	110 J	220 U	250 U	250 U
Methyl cyclohexane	ug/kg	250	34 U	37 U	37 U
Methyl tert butyl ether (MTBE)	ug/kg	38 U	34 U	37 U	37 U
Methylene chloride	ug/kg	38 U	34 U	37 U	37 U
Styrene	ug/kg	38 U	34 U	37 U	37 U
Tetrachloroethene	ug/kg	38 U	34 U	37 U	37 U
Toluene	ug/kg	100	34 U	37 U	37 U
trans-1,2-Dichloroethene	ug/kg	38 U	34 U	37 U	37 U
trans-1,3-Dichloropropene	ug/kg	38 U	34 U	37 U	37 U
Trichloroethene	ug/kg	**800**[bc]	34 U	37 U	37 U
Trichlorofluoromethane (CFC-11)	ug/kg	38 U	34 U	37 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	38 U	34 U	37 U	37 U
Vinyl chloride	ug/kg	38 U	34 U	37 U	37 U
Xylenes (total)	ug/kg	160	100 U	110 U	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	130	6.9 U	6.8 U	7.1 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB292-13	SB292-13	SB292-13	SB292-13
Sample Identification		SO-017360-102113-MR-018	SO-017360-102113-MR-019	SO-017360-102113-MR-020	SO-017360-102113-MR-021
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	29	6.9 U	6.8 U	7.1 U
Acenaphthylene	ug/kg	170	6.9 U	6.8 U	7.1 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	230	6.9 U	6.8 U	7.1 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	590	6.9 U	6.8 U	7.1 U
Benzo(a)pyrene	ug/kg	920	6.9 U	6.8 U	7.1 U
Benzo(b)fluoranthene	ug/kg	1100	6.9 U	6.8 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	1400	6.9 U	6.8 U	7.1 U
Benzo(k)fluoranthene	ug/kg	700	6.9 U	6.8 U	7.1 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	870	6.9 U	6.8 U	7.1 U
Dibenz(a,h)anthracene	ug/kg	280	6.9 U	6.8 U	7.1 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB292-13	SB292-13	SB292-13	SB292-13
Sample Identification		SO-017360-102113-MR-018	SO-017360-102113-MR-019	SO-017360-102113-MR-020	SO-017360-102113-MR-021
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1100	6.9 U	6.8 U	7.1 U
Fluorene	ug/kg	33	6.9 U	6.8 U	7.1 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	810	6.9 U	6.8 U	7.1 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	120	6.9 U	6.8 U	7.1 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	540	6.9 U	6.8 U	7.1 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1000	6.9 U	6.8 U	7.1 U
Metals					
Antimony	ug/kg	**7200[bc]**	110 J	24 J	1800 U
Arsenic	ug/kg	3900	1100	870	550 J
Barium	ug/kg	160000 J	13000 J	5600 J	5500 J
Beryllium	ug/kg	170 J	89 J	69 J	130 J
Cadmium	ug/kg	2200	52 J	20 J	730 U
Chromium	ug/kg	**63000[bcd]**	6600	5500	7600
Cobalt	ug/kg	**10000[bcd]**	1900	1500	2200
Copper	ug/kg	**200000[d]**	7700	3800	7600
Iron	ug/kg	**19000000[bc]**	5000000	3700000	4500000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB292-13	SB292-13	SB292-13	SB292-13
Sample Identification		SO-017360-102113-MR-018	SO-017360-102113-MR-019	SO-017360-102113-MR-020	SO-017360-102113-MR-021
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	300000	6700	3300	2000
Manganese	ug/kg	310000 J	35000 J	28000 J	55000 J
Metals (continued)					
Mercury	ug/kg	26 J	15 J	9.2 J	16 J
Molybdenum	ug/kg	**13000[bc]**	490	42 J	150 J
Nickel	ug/kg	46000	4200	3800	7400
Selenium	ug/kg	**440 J[d]**	240 J	190 J	340 J
Silver	ug/kg	660 J	80 J	52 J	1800 U
Thallium	ug/kg	2200 U	45 J	19 J	58 J
Vanadium	ug/kg	11000	10000	7100	8600
Zinc	ug/kg	190000	15000	6500	11000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1221 (PCB-1221)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1232 (PCB-1232)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1242 (PCB-1242)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1248 (PCB-1248)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1254 (PCB-1254)	ug/kg	89 U	84 U	83 U	85 U
Aroclor-1260 (PCB-1260)	ug/kg	89 U	84 U	83 U	85 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB294-13	SB294-13	SB294-13
Sample Identification		SO-017360-102113-MR-023	SO-017360-102113-MR-024	SO-017360-102113-MR-025	SO-017360-102113-MR-026
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	67 U	45 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	67 U	45 U	37 U
1,1,2-Trichloroethane	ug/kg	41 U	67 U	45 U	37 U
1,1-Dichloroethane	ug/kg	41 U	67 U	45 U	37 U
1,1-Dichloroethene	ug/kg	41 U	67 U	45 U	37 U
1,2,4-Trichlorobenzene	ug/kg	41 U	67 U	45 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	41 U	67 U	45 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	41 U	67 U	45 U	37 U
1,2-Dichlorobenzene	ug/kg	41 U	67 U	45 U	37 U
1,2-Dichloroethane	ug/kg	41 U	67 U	45 U	37 U
1,2-Dichloropropane	ug/kg	41 U	67 U	45 U	37 U
1,3-Dichlorobenzene	ug/kg	41 U	67 U	45 U	37 U
1,4-Dichlorobenzene	ug/kg	41 U	67 U	45 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	270 U	440 U	300 U	250 U
2-Hexanone	ug/kg	41 U	67 U	45 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	41 U	67 U	45 U	37 U
Acetone	ug/kg	140 U	220 U	150 U	120 U
Benzene	ug/kg	41 U	67 U	45 U	37 U
Bromodichloromethane	ug/kg	41 U	67 U	45 U	37 U
Bromoform	ug/kg	41 U	67 U	45 U	37 U
Bromomethane (Methyl bromide)	ug/kg	100 U	170 U	110 U	93 U
Carbon disulfide	ug/kg	41 U	67 U	45 U	37 U
Carbon tetrachloride	ug/kg	41 U	67 U	45 U	37 U
Chlorobenzene	ug/kg	41 U	67 U	45 U	37 U
Chloroethane	ug/kg	140 U	220 U	150 U	120 U
Chloroform (Trichloromethane)	ug/kg	41 U	67 U	45 U	37 U
Chloromethane (Methyl chloride)	ug/kg	140 U	220 U	150 U	120 U
cis-1,2-Dichloroethene	ug/kg	41 U	67 U	45 U	37 U
cis-1,3-Dichloropropene	ug/kg	41 U	67 U	45 U	37 U
Cyclohexane	ug/kg	41 U	67 U	45 U	37 U
Dibromochloromethane	ug/kg	41 U	67 U	45 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	41 U	67 U	45 U	37 U
Ethylbenzene	ug/kg	41 U	67 U	45 U	37 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB294-13	SB294-13	SB294-13
Sample Identification		SO-017360-102113-MR-023	SO-017360-102113-MR-024	SO-017360-102113-MR-025	SO-017360-102113-MR-026
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	41 U	67 U	45 U	37 U
Methyl acetate	ug/kg	130 J	440 U	300 U	250 U
Methyl cyclohexane	ug/kg	41 U	67 U	45 U	37 U
Methyl tert butyl ether (MTBE)	ug/kg	41 U	67 U	45 U	37 U
Methylene chloride	ug/kg	41 U	67 U	45 U	37 U
Styrene	ug/kg	41 U	67 U	45 U	37 U
Tetrachloroethene	ug/kg	41 U	67 U	45 U	37 U
Toluene	ug/kg	41 U	67 U	45 U	37 U
trans-1,2-Dichloroethene	ug/kg	41 U	67 U	45 U	37 U
trans-1,3-Dichloropropene	ug/kg	41 U	67 U	45 U	37 U
Trichloroethene	ug/kg	**550**[bc]	67 U	45 U	37 U
Trichlorofluoromethane (CFC-11)	ug/kg	41 U	67 U	45 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	41 U	67 U	45 U	37 U
Vinyl chloride	ug/kg	41 U	67 U	45 U	37 U
Xylenes (total)	ug/kg	120 U	200 U	140 U	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	33	7.0 U	7.0 U	7.0 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB294-13	SB294-13	SB294-13
Sample Identification		SO-017360-102113-MR-023	SO-017360-102113-MR-024	SO-017360-102113-MR-025	SO-017360-102113-MR-026
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.0 U	7.0 U	7.0 U	7.0 U
Acenaphthylene	ug/kg	7.0 U	7.0 U	7.0 U	7.0 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	7.0 U	7.0 U	7.0 U	7.0 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	63	7.0 U	7.0 U	7.0 U
Benzo(a)pyrene	ug/kg	46	7.0 U	7.0 U	7.0 U
Benzo(b)fluoranthene	ug/kg	66	7.0 U	7.0 U	7.0 U
Benzo(g,h,i)perylene	ug/kg	66	7.0 U	7.0 U	7.0 U
Benzo(k)fluoranthene	ug/kg	42	7.0 U	7.0 U	7.0 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	82	7.0 U	7.0 U	7.0 U
Dibenz(a,h)anthracene	ug/kg	7.0 U	7.0 U	7.0 U	7.0 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB294-13**	**SB294-13**	**SB294-13**	**SB294-13**
Sample Identification		**SO-017360-102113-MR-023**	**SO-017360-102113-MR-024**	**SO-017360-102113-MR-025**	**SO-017360-102113-MR-026**
Sample Date		**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	68	7.0 U	7.0 U	7.0 U
Fluorene	ug/kg	7.0 U	7.0 U	7.0 U	7.0 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	36	7.0 U	7.0 U	7.0 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	22	7.0 U	7.0 U	7.0 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	73	7.0 U	7.0 U	7.0 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	70	7.0 U	7.0 U	7.0 U
Metals					
Antimony	ug/kg	**4400**[bc]	120 J	31 J	33 J
Arsenic	ug/kg	**12000**[bcdo]	980	1200	970
Barium	ug/kg	31000 J	11000 J	3900 J	5100 J
Beryllium	ug/kg	130 J	76 J	87 J	110 J
Cadmium	ug/kg	560 J	53 J	27 J	36 J
Chromium	ug/kg	**490000**[bcdmn]	6600	5200	10000
Cobalt	ug/kg	**19000**[bcd]	1500	1600	2800
Copper	ug/kg	80000	2800	2000	4300
Iron	ug/kg	**82000000**[bc]	4600000	4200000	5500000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB294-13	SB294-13	SB294-13
Sample Identification		SO-017360-102113-MR-023	SO-017360-102113-MR-024	SO-017360-102113-MR-025	SO-017360-102113-MR-026
Sample Date		10/21/2013	10/21/2013	10/21/2013	10/21/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	50000	4200	1900	2200
Manganese	ug/kg	**620000 J[bcd]**	37000 J	29000 J	74000 J
Metals (continued)					
Mercury	ug/kg	22 J	11 J	11 J	15 J
Molybdenum	ug/kg	**150000[bcd]**	850	150 J	130 J
Nickel	ug/kg	**1400000[bcd]**	17000	3900	6600
Selenium	ug/kg	280 J	170 J	170 J	**470[d]**
Silver	ug/kg	320 J	22 J	390 U	390 U
Thallium	ug/kg	1800 U	31 J	24 J	34 J
Vanadium	ug/kg	1800 U	8600	8800	11000
Zinc	ug/kg	41000	10000	6300	9800
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1221 (PCB-1221)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1232 (PCB-1232)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1242 (PCB-1242)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1248 (PCB-1248)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1254 (PCB-1254)	ug/kg	88 U	85 U	87 U	87 U
Aroclor-1260 (PCB-1260)	ug/kg	88 U	85 U	87 U	87 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB310-14	SB310-14	SB310-14
Sample Identification		SO-017360-102113-MR-027	SO-17360-041414-DR-006	SO-17360-041414-DR-007	SO-17360-041414-DR-008
Sample Date		10/21/2013	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	33 U	79 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	33 U	79 U	33 U
1,1,2-Trichloroethane	ug/kg	34 U	33 U	79 U	33 U
1,1-Dichloroethane	ug/kg	34 U	33 U	79 U	33 U
1,1-Dichloroethene	ug/kg	34 U	33 U	79 U	33 U
1,2,4-Trichlorobenzene	ug/kg	34 U	33 U	79 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	33 U	79 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	33 U	79 U	33 U
1,2-Dichlorobenzene	ug/kg	34 U	33 U	79 U	33 U
1,2-Dichloroethane	ug/kg	34 U	33 U	79 U	33 U
1,2-Dichloropropane	ug/kg	34 U	33 U	79 U	33 U
1,3-Dichlorobenzene	ug/kg	34 U	33 U	79 U	33 U
1,4-Dichlorobenzene	ug/kg	34 U	33 U	79 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	220 U	530 U	220 U
2-Hexanone	ug/kg	34 U	33 U	79 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	33 U	79 U	33 U
Acetone	ug/kg	110 U	110 U	260 U	110 U
Benzene	ug/kg	34 U	33 U	79 U	33 U
Bromodichloromethane	ug/kg	34 U	33 U	79 U	33 U
Bromoform	ug/kg	34 U	33 U	79 U	33 U
Bromomethane (Methyl bromide)	ug/kg	84 U	83 U	200 U	82 U
Carbon disulfide	ug/kg	34 U	33 U	79 U	33 U
Carbon tetrachloride	ug/kg	34 U	33 U	79 U	33 U
Chlorobenzene	ug/kg	34 U	33 U	79 U	33 U
Chloroethane	ug/kg	110 U	110 U	260 U	110 U
Chloroform (Trichloromethane)	ug/kg	34 U	33 U	79 U	33 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	260 U	110 U
cis-1,2-Dichloroethene	ug/kg	34 U	33 U	79 U	33 U
cis-1,3-Dichloropropene	ug/kg	34 U	33 U	79 U	33 U
Cyclohexane	ug/kg	34 U	33 U	220	33 U
Dibromochloromethane	ug/kg	34 U	33 U	79 U	33 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	33 U	79 U	33 U
Ethylbenzene	ug/kg	34 U	33 U	69 J	33 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB310-14	SB310-14	SB310-14
Sample Identification		SO-017360-102113-MR-027	SO-17360-041414-DR-006	SO-17360-041414-DR-007	SO-17360-041414-DR-008
Sample Date		10/21/2013	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	33 U	61 J	33 U
Methyl acetate	ug/kg	220 U	260	710	560
Methyl cyclohexane	ug/kg	34 U	33 U	1200	33 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	33 U	79 U	33 U
Methylene chloride	ug/kg	34 U	33 U	79 U	33 U
Styrene	ug/kg	34 U	33 U	79 U	33 U
Tetrachloroethene	ug/kg	34 U	33 U	79 U	33 U
Toluene	ug/kg	34 U	33 U	200	33 U
trans-1,2-Dichloroethene	ug/kg	34 U	33 U	79 U	33 U
trans-1,3-Dichloropropene	ug/kg	34 U	33 U	79 U	33 U
Trichloroethene	ug/kg	34 U	33 U	79 U	33 U
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	33 U	79 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	33 U	79 U	33 U
Vinyl chloride	ug/kg	34 U	33 U	79 U	33 U
Xylenes (total)	ug/kg	100 U	99 U	680	98 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	6.9 U	6.8 U	1600	41
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB310-14	SB310-14	SB310-14
Sample Identification		SO-017360-102113-MR-027	SO-17360-041414-DR-006	SO-17360-041414-DR-007	SO-17360-041414-DR-008
Sample Date		10/21/2013	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	6.9 U	6.8 U	7.7 U	7.1 U
Acenaphthylene	ug/kg	6.9 U	6.8 U	750	7.1 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	6.9 U	6.8 U	530	7.1 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	6.9 U	6.8 U	830	25
Benzo(a)pyrene	ug/kg	6.9 U	6.8 U	1100	7.1 U
Benzo(b)fluoranthene	ug/kg	6.9 U	6.8 U	1900	23
Benzo(g,h,i)perylene	ug/kg	6.9 U	6.8 U	430	7.1 U
Benzo(k)fluoranthene	ug/kg	6.9 U	6.8 U	700	7.1 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	6.9 U	6.8 U	1200	21
Dibenz(a,h)anthracene	ug/kg	6.9 U	6.8 U	230	7.1 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB310-14	SB310-14	SB310-14
Sample Identification		SO-017360-102113-MR-027	SO-17360-041414-DR-006	SO-17360-041414-DR-007	SO-17360-041414-DR-008
Sample Date		10/21/2013	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	6.9 U	6.8 U	1700	7.1 U
Fluorene	ug/kg	6.9 U	6.8 U	120	7.1 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.9 U	6.8 U	750	7.1 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	6.9 U	6.8 U	**1000[d]**	46
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	6.9 U	30	**2200[d]**	50
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	6.9 U	6.8 U	1100	7.1 U
Metals					
Antimony	ug/kg	36 J	96 J	3100	140 J
Arsenic	ug/kg	1100	1700	**10000[bcdo]**	1200 J
Barium	ug/kg	5800 J	16000	62000 J	29000 J
Beryllium	ug/kg	110 J	150 J	1400	140 J
Cadmium	ug/kg	36 J	68 J	1000	600 J
Chromium	ug/kg	7000	4700	14000 J	4300 J
Cobalt	ug/kg	2500	2300	5700 J	1600 J
Copper	ug/kg	5000	4700	53000 J	3400 J
Iron	ug/kg	5400000	5000000	**47000000[bc]**	4700000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB294-13	SB310-14	SB310-14	SB310-14
Sample Identification		SO-017360-102113-MR-027	SO-17360-041414-DR-006	SO-17360-041414-DR-007	SO-17360-041414-DR-008
Sample Date		10/21/2013	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	2400	5000	110000 J	3700 J
Manganese	ug/kg	86000 J	120000	260000	240000
Metals (continued)					
Mercury	ug/kg	11 J	8 J	87	8.8 J
Molybdenum	ug/kg	410 J	210 J	**4000[b]**	280 J
Nickel	ug/kg	5400	4500	16000 J	4200 J
Selenium	ug/kg	400 J	**520 J[d]**	**2000 J[d]**	**550 J[d]**
Silver	ug/kg	410 U	7.1 J	67 J	1700 U
Thallium	ug/kg	33 J	51 J	330 J	43 J
Vanadium	ug/kg	9900	9300	29000	7200
Zinc	ug/kg	9900	11000	130000 J	**620000 J[d]**
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1221 (PCB-1221)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1232 (PCB-1232)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1242 (PCB-1242)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1248 (PCB-1248)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1254 (PCB-1254)	ug/kg	86 U	86 U	98 U	91 U
Aroclor-1260 (PCB-1260)	ug/kg	86 U	86 U	98 U	91 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB310-14	SB310-14	SB311-14	SB311-14
Sample Identification		SO-17360-041414-DR-009	SO-17360-041414-DR-010	SO-17360-041414-DR-011	SO-17360-041414-DR-012
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	67 U	33 U	65 U	55 U
1,1,2,2-Tetrachloroethane	ug/kg	67 U	33 U	65 U	55 U
1,1,2-Trichloroethane	ug/kg	67 U	33 U	65 U	55 U
1,1-Dichloroethane	ug/kg	67 U	33 U	65 U	55 U
1,1-Dichloroethene	ug/kg	67 U	33 U	65 U	55 U
1,2,4-Trichlorobenzene	ug/kg	67 U	33 U	65 U	55 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	67 U	33 U	65 U	55 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	67 U	33 U	65 U	55 U
1,2-Dichlorobenzene	ug/kg	67 U	33 U	65 U	55 U
1,2-Dichloroethane	ug/kg	67 U	33 U	65 U	55 U
1,2-Dichloropropane	ug/kg	67 U	33 U	65 U	55 U
1,3-Dichlorobenzene	ug/kg	67 U	33 U	65 U	55 U
1,4-Dichlorobenzene	ug/kg	67 U	33 U	65 U	55 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	440 U	220 U	270 J	360 U
2-Hexanone	ug/kg	67 U	33 U	65 U	55 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	67 U	33 U	65 U	55 U
Acetone	ug/kg	220 U	110 U	950	230
Benzene	ug/kg	67 U	33 U	**120[bc]**	**1100[bc]**
Bromodichloromethane	ug/kg	67 U	33 U	65 U	55 U
Bromoform	ug/kg	67 U	33 U	65 U	55 U
Bromomethane (Methyl bromide)	ug/kg	170 U	81 U	160 U	140 U
Carbon disulfide	ug/kg	67 U	33 U	65 U	55 U
Carbon tetrachloride	ug/kg	67 U	33 U	65 U	55 U
Chlorobenzene	ug/kg	67 U	33 U	65 U	55 U
Chloroethane	ug/kg	220 U	110 U	220 U	180 U
Chloroform (Trichloromethane)	ug/kg	67 U	33 U	65 U	55 U
Chloromethane (Methyl chloride)	ug/kg	220 U	110 U	220 U	180 U
cis-1,2-Dichloroethene	ug/kg	67 U	33 U	65 U	55 U
cis-1,3-Dichloropropene	ug/kg	67 U	33 U	65 U	55 U
Cyclohexane	ug/kg	67 U	33 U	540	840
Dibromochloromethane	ug/kg	67 U	33 U	65 U	55 U
Dichlorodifluoromethane (CFC-12)	ug/kg	67 U	33 U	65 U	55 U
Ethylbenzene	ug/kg	67 U	33 U	130	**620[d]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB310-14	SB310-14	SB311-14	SB311-14
Sample Identification		SO-17360-041414-DR-009	SO-17360-041414-DR-010	SO-17360-041414-DR-011	SO-17360-041414-DR-012
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	67 U	33 U	86	390
Methyl acetate	ug/kg	330 J	98 J	880	340 J
Methyl cyclohexane	ug/kg	67 U	33 U	2000	3000
Methyl tert butyl ether (MTBE)	ug/kg	67 U	33 U	65 U	55 U
Methylene chloride	ug/kg	67 U	33 U	65 U	55 U
Styrene	ug/kg	67 U	33 U	65 U	55 U
Tetrachloroethene	ug/kg	67 U	33 U	65 U	55 U
Toluene	ug/kg	67 U	33 U	890	3300
trans-1,2-Dichloroethene	ug/kg	67 U	33 U	65 U	55 U
trans-1,3-Dichloropropene	ug/kg	67 U	33 U	65 U	55 U
Trichloroethene	ug/kg	67 U	33 U	65 U	55 U
Trichlorofluoromethane (CFC-11)	ug/kg	67 U	33 U	65 U	55 U
Trifluorotrichloroethane (Freon 113)	ug/kg	67 U	33 U	65 U	55 U
Vinyl chloride	ug/kg	67 U	33 U	65 U	55 U
Xylenes (total)	ug/kg	200 U	98 U	**1400[d]**	**3200[d]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	12 U	7.1 U	1800	1200
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB310-14	SB310-14	SB311-14	SB311-14
Sample Identification		SO-17360-041414-DR-009	SO-17360-041414-DR-010	SO-17360-041414-DR-011	SO-17360-041414-DR-012
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	12 U	7.1 U	56	7.7 U
Acenaphthylene	ug/kg	12 U	7.1 U	180	7.7 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	12 U	7.1 U	330	66
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	12 U	7.1 U	560	91
Benzo(a)pyrene	ug/kg	12 U	7.1 U	630	94
Benzo(b)fluoranthene	ug/kg	12 U	7.1 U	1200	100
Benzo(g,h,i)perylene	ug/kg	12 U	7.1 U	570	59
Benzo(k)fluoranthene	ug/kg	12 U	7.1 U	360	40
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	12 U	7.1 U	850	130
Dibenz(a,h)anthracene	ug/kg	12 U	7.1 U	200	7.7 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB310-14	SB310-14	SB311-14	SB311-14
Sample Identification		SO-17360-041414-DR-009	SO-17360-041414-DR-010	SO-17360-041414-DR-011	SO-17360-041414-DR-012
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	12 U	7.1 U	1300	110
Fluorene	ug/kg	12 U	7.1 U	79	7.7 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	12 U	7.1 U	630	74
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	12 U	7.1 U	**1400[d]**	**960[d]**
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	12 U	7.1 U	2000	520
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	12 U	7.1 U	930	110
Metals					
Antimony	ug/kg	99 J	95 J	**13000[bc]**	**4500[bc]**
Arsenic	ug/kg	3000 J	1100 J	**19000[bcdo]**	**11000[bcdo]**
Barium	ug/kg	250000 J	21000 J	89000 J	39000 J
Beryllium	ug/kg	1400 U	150 J	1100	650 J
Cadmium	ug/kg	97 J	34 J	4400	1300
Chromium	ug/kg	2300 J	14000 J	**41000 J[bcd]**	7800 J
Cobalt	ug/kg	1200 J	2900 J	**13000 J[bcd]**	4600 J
Copper	ug/kg	4000 J	6100 J	**200000 J[d]**	41000 J
Iron	ug/kg	4400000	6500000	**91000000[bc]**	**34000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB310-14	SB310-14	SB311-14	SB311-14
Sample Identification		SO-17360-041414-DR-009	SO-17360-041414-DR-010	SO-17360-041414-DR-011	SO-17360-041414-DR-012
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	17000 U	3000 J	270000 J	130000 J
Manganese	ug/kg	150000	68000	**500000[bcd]**	59000
Metals (continued)					
Mercury	ug/kg	4.6 J	2.6 J	**190[d]**	18 J
Molybdenum	ug/kg	**2400 J[b]**	330 J	**5600[bc]**	**2700[b]**
Nickel	ug/kg	4900 J	9600 J	56000 J	12000 J
Selenium	ug/kg	**780 J[d]**	**870 J[d]**	**2800 J[d]**	**1500 J[d]**
Silver	ug/kg	3500 U	9.2 J	120 J	22 J
Thallium	ug/kg	17000 U	73 J	300 J	230 J
Vanadium	ug/kg	3900	11000	21000	14000
Zinc	ug/kg	8200 J	14000 J	150000 J	16000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1221 (PCB-1221)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1232 (PCB-1232)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1242 (PCB-1242)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1248 (PCB-1248)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1254 (PCB-1254)	ug/kg	140 U	87 U	100 U	93 U
Aroclor-1260 (PCB-1260)	ug/kg	140 U	87 U	200	93 U
Total PCBs	ug/kg	0	0	200	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB311-14	SB311-14	SB311-14	SB312-14
Sample Identification		SO-17360-041414-DR-013	SO-17360-041414-DR-014	SO-17360-041414-DR-015	SO-17360-041414-DR-021
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	74 U	73 U	39 U	50 U
1,1,2,2-Tetrachloroethane	ug/kg	74 U	73 U	39 U	50 U
1,1,2-Trichloroethane	ug/kg	74 U	73 U	39 U	50 U
1,1-Dichloroethane	ug/kg	74 U	73 U	39 U	50 U
1,1-Dichloroethene	ug/kg	74 U	73 U	39 U	50 U
1,2,4-Trichlorobenzene	ug/kg	74 U	73 U	39 U	50 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	74 U	73 U	39 U	50 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	74 U	73 U	39 U	50 U
1,2-Dichlorobenzene	ug/kg	74 U	73 U	39 U	50 U
1,2-Dichloroethane	ug/kg	74 U	73 U	39 U	50 U
1,2-Dichloropropane	ug/kg	74 U	73 U	39 U	50 U
1,3-Dichlorobenzene	ug/kg	74 U	73 U	39 U	50 U
1,4-Dichlorobenzene	ug/kg	74 U	73 U	39 U	50 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	500 U	490 U	260 U	330 U
2-Hexanone	ug/kg	74 U	73 U	39 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	74 U	73 U	39 U	50 U
Acetone	ug/kg	250 U	240 U	130 U	170 U
Benzene	ug/kg	**1400**[bc]	73 U	39 U	**490**[bc]
Bromodichloromethane	ug/kg	74 U	73 U	39 U	50 U
Bromoform	ug/kg	74 U	73 U	39 U	50 U
Bromomethane (Methyl bromide)	ug/kg	190 U	180 U	98 U	130 U
Carbon disulfide	ug/kg	74 U	73 U	39 U	50 U
Carbon tetrachloride	ug/kg	74 U	73 U	39 U	50 U
Chlorobenzene	ug/kg	74 U	73 U	39 U	50 U
Chloroethane	ug/kg	250 U	240 U	130 U	170 U
Chloroform (Trichloromethane)	ug/kg	74 U	73 U	39 U	50 U
Chloromethane (Methyl chloride)	ug/kg	250 U	240 U	130 U	170 U
cis-1,2-Dichloroethene	ug/kg	74 U	73 U	39 U	50 U
cis-1,3-Dichloropropene	ug/kg	74 U	73 U	39 U	50 U
Cyclohexane	ug/kg	720	73 U	39 U	320
Dibromochloromethane	ug/kg	74 U	73 U	39 U	50 U
Dichlorodifluoromethane (CFC-12)	ug/kg	74 U	73 U	39 U	50 U
Ethylbenzene	ug/kg	**670**[d]	73 U	39 U	170

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB311-14	SB311-14	SB311-14	SB312-14
Sample Identification		SO-17360-041414-DR-013	SO-17360-041414-DR-014	SO-17360-041414-DR-015	SO-17360-041414-DR-021
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	420	73 U	39 U	110
Methyl acetate	ug/kg	520	250 J	190 J	420
Methyl cyclohexane	ug/kg	2600	73 U	39 U	1000
Methyl tert butyl ether (MTBE)	ug/kg	74 U	73 U	39 U	50 U
Methylene chloride	ug/kg	74 U	73 U	39 U	50 U
Styrene	ug/kg	74 U	73 U	39 U	50 U
Tetrachloroethene	ug/kg	74 U	73 U	39 U	50 U
Toluene	ug/kg	4100	73 U	39 U	1000
trans-1,2-Dichloroethene	ug/kg	74 U	73 U	39 U	50 U
trans-1,3-Dichloropropene	ug/kg	74 U	73 U	39 U	50 U
Trichloroethene	ug/kg	74 U	73 U	39 U	50 U
Trichlorofluoromethane (CFC-11)	ug/kg	74 U	73 U	39 U	50 U
Trifluorotrichloroethane (Freon 113)	ug/kg	74 U	73 U	39 U	50 U
Vinyl chloride	ug/kg	74 U	73 U	39 U	50 U
Xylenes (total)	ug/kg	**3500[d]**	220 U	120 U	**1200[d]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	7.7 U	12 U	8.6 U	75 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB311-14	SB311-14	SB311-14	SB312-14
Sample Identification		SO-17360-041414-DR-013	SO-17360-041414-DR-014	SO-17360-041414-DR-015	SO-17360-041414-DR-021
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.7 U	12 U	8.6 U	75 U
Acenaphthylene	ug/kg	7.7 U	12 U	8.6 U	1200
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	7.7 U	12 U	8.6 U	2500
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	7.7 U	12 U	8.6 U	3500
Benzo(a)pyrene	ug/kg	7.7 U	12 U	8.6 U	**4000[o]**
Benzo(b)fluoranthene	ug/kg	7.7 U	12 U	8.6 U	6400
Benzo(g,h,i)perylene	ug/kg	7.7 U	12 U	8.6 U	1600
Benzo(k)fluoranthene	ug/kg	7.7 U	12 U	8.6 U	2500
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	7.7 U	12 U	8.6 U	4100
Dibenz(a,h)anthracene	ug/kg	7.7 U	12 U	8.6 U	740
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB311-14	SB311-14	SB311-14	SB312-14
Sample Identification		SO-17360-041414-DR-013	SO-17360-041414-DR-014	SO-17360-041414-DR-015	SO-17360-041414-DR-021
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	7.7 U	12 U	8.6 U	**10000[d]**
Fluorene	ug/kg	7.7 U	12 U	8.6 U	1200
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	7.7 U	12 U	8.6 U	2400
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	71	12 U	8.6 U	75 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	69	12 U	8.6 U	**6200[d]**
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	7.7 U	12 U	8.6 U	5100
Metals					
Antimony	ug/kg	810 J	190 J	110 J	3000
Arsenic	ug/kg	**10000[bcdo]**	2900 J	1400 J	**7600[bcd]**
Barium	ug/kg	32000 J	270000 J	130000 J	75000 J
Beryllium	ug/kg	380 J	99 J	120 J	830 J
Cadmium	ug/kg	120 J	170 J	110 J	1200
Chromium	ug/kg	6400 J	2500 J	6000 J	17000 J
Cobalt	ug/kg	2700 J	1500 J	1800 J	5700 J
Copper	ug/kg	20000 J	4200 J	11000 J	61000 J
Iron	ug/kg	**31000000[bc]**	5500000	4500000	**25000000[bc]**

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB311-14	SB311-14	SB311-14	SB312-14
Sample Identification		SO-17360-041414-DR-013	SO-17360-041414-DR-014	SO-17360-041414-DR-015	SO-17360-041414-DR-021
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	12000 J	17000 U	2300 J	160000 J
Manganese	ug/kg	26000	170000	62000	270000
Metals (continued)					
Mercury	ug/kg	71	2.1 J	3.1 J	**170[d]**
Molybdenum	ug/kg	**1800 J[b]**	**2600 J[b]**	**1700 J[b]**	**2900[b]**
Nickel	ug/kg	7200 J	4900 J	6000 J	26000 J
Selenium	ug/kg	**1400 J[d]**	**900 J[d]**	**1100 J[d]**	**1300 J[d]**
Silver	ug/kg	13 J	35 J	2400 U	81 J
Thallium	ug/kg	300 J	17000 U	12000 U	200 J
Vanadium	ug/kg	13000	4300	9000	14000
Zinc	ug/kg	5100 J	6800 J	14000 J	140000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1221 (PCB-1221)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1232 (PCB-1232)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1242 (PCB-1242)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1248 (PCB-1248)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1254 (PCB-1254)	ug/kg	94 U	140 U	110 U	94 U
Aroclor-1260 (PCB-1260)	ug/kg	94 U	140 U	110 U	560
Total PCBs	ug/kg	0	0	0	560

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB312-14	SB312-14	SB312-14	SB312-14
Sample Identification		SO-17360-041414-DR-022	SO-17360-041414-DR-023	SO-17360-041414-DR-024	SO-17360-041414-DR-025
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	61 U	86 U	37 U	34 U
1,1,2,2-Tetrachloroethane	ug/kg	61 U	86 U	37 U	34 U
1,1,2-Trichloroethane	ug/kg	61 U	86 U	37 U	34 U
1,1-Dichloroethane	ug/kg	61 U	86 U	37 U	34 U
1,1-Dichloroethene	ug/kg	61 U	86 U	37 U	34 U
1,2,4-Trichlorobenzene	ug/kg	61 U	86 U	37 U	34 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	61 U	86 U	37 U	34 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	61 U	86 U	37 U	34 U
1,2-Dichlorobenzene	ug/kg	61 U	86 U	37 U	34 U
1,2-Dichloroethane	ug/kg	61 U	86 U	37 U	34 U
1,2-Dichloropropane	ug/kg	61 U	86 U	37 U	34 U
1,3-Dichlorobenzene	ug/kg	61 U	86 U	37 U	34 U
1,4-Dichlorobenzene	ug/kg	61 U	86 U	37 U	34 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	260 J	570 U	250 U	230 U
2-Hexanone	ug/kg	61 U	86 U	37 U	34 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	61 U	86 U	37 U	34 U
Acetone	ug/kg	310	230 J	120 U	110 U
Benzene	ug/kg	**2000**[bce]	86 U	37 U	34 U
Bromodichloromethane	ug/kg	61 U	86 U	37 U	34 U
Bromoform	ug/kg	61 U	86 U	37 U	34 U
Bromomethane (Methyl bromide)	ug/kg	150 U	210 U	94 U	85 U
Carbon disulfide	ug/kg	67	86 U	37 U	34 U
Carbon tetrachloride	ug/kg	61 U	86 U	37 U	34 U
Chlorobenzene	ug/kg	61 U	86 U	37 U	34 U
Chloroethane	ug/kg	200 U	290 U	120 U	110 U
Chloroform (Trichloromethane)	ug/kg	61 U	86 U	37 U	34 U
Chloromethane (Methyl chloride)	ug/kg	200 U	290 U	120 U	110 U
cis-1,2-Dichloroethene	ug/kg	61 U	86 U	37 U	34 U
cis-1,3-Dichloropropene	ug/kg	61 U	86 U	37 U	34 U
Cyclohexane	ug/kg	1200	310	37 U	34 U
Dibromochloromethane	ug/kg	61 U	86 U	37 U	34 U
Dichlorodifluoromethane (CFC-12)	ug/kg	61 U	86 U	37 U	34 U
Ethylbenzene	ug/kg	**1200**[d]	70 J	37 U	34 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB312-14	SB312-14	SB312-14	SB312-14
Sample Identification		SO-17360-041414-DR-022	SO-17360-041414-DR-023	SO-17360-041414-DR-024	SO-17360-041414-DR-025
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	730	49 J	37 U	34 U
Methyl acetate	ug/kg	390 J	640	64 J	290
Methyl cyclohexane	ug/kg	4600	1000	37 U	34 U
Methyl tert butyl ether (MTBE)	ug/kg	61 U	86 U	37 U	34 U
Methylene chloride	ug/kg	61 U	86 U	37 U	34 U
Styrene	ug/kg	61 U	86 U	37 U	34 U
Tetrachloroethene	ug/kg	61 U	86 U	37 U	34 U
Toluene	ug/kg	**6700[d]**	240	37 U	34 U
trans-1,2-Dichloroethene	ug/kg	61 U	86 U	37 U	34 U
trans-1,3-Dichloropropene	ug/kg	61 U	86 U	37 U	34 U
Trichloroethene	ug/kg	61 U	86 U	37 U	34 U
Trichlorofluoromethane (CFC-11)	ug/kg	61 U	86 U	37 U	34 U
Trifluorotrichloroethane (Freon 113)	ug/kg	61 U	86 U	37 U	34 U
Vinyl chloride	ug/kg	61 U	86 U	37 U	34 U
Xylenes (total)	ug/kg	**7000[bcd]**	730	110 U	100 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	1500	79 U	8.1 U	7.1 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB312-14	SB312-14	SB312-14	SB312-14
Sample Identification		SO-17360-041414-DR-022	SO-17360-041414-DR-023	SO-17360-041414-DR-024	SO-17360-041414-DR-025
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	8000	79 U	8.1 U	7.1 U
Acenaphthylene	ug/kg	74 U	79 U	8.1 U	7.1 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	22000	79 U	8.1 U	7.1 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	**43000°**	960	8.1 U	7.1 U
Benzo(a)pyrene	ug/kg	**37000^{op}**	1000	8.1 U	7.1 U
Benzo(b)fluoranthene	ug/kg	**44000°**	1100	8.1 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	8100	900	8.1 U	7.1 U
Benzo(k)fluoranthene	ug/kg	16000	700	8.1 U	7.1 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	42000	710	8.1 U	7.1 U
Dibenz(a,h)anthracene	ug/kg	**5100°**	340	8.1 U	7.1 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB312-14	SB312-14	SB312-14	SB312-14
Sample Identification		SO-17360-041414-DR-022	SO-17360-041414-DR-023	SO-17360-041414-DR-024	SO-17360-041414-DR-025
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	**94000[d]**	680	8.1 U	7.1 U
Fluorene	ug/kg	**13000[d]**	79 U	8.1 U	7.1 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	13000	810	8.1 U	7.1 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	**2200[d]**	79 U	8.1 U	7.1 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	**83000[bd]**	79 U	8.1 U	7.1 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	69000	370	8.1 U	7.1 U
Metals					
Antimony	ug/kg	**20000[bc]**	**110000[bcd]**	110 J	76 J
Arsenic	ug/kg	5400	**8800[bcdo]**	2300	790 J
Barium	ug/kg	360000 J	35000 J	53000 J	40000 J
Beryllium	ug/kg	490 J	430 J	90 J	77 J
Cadmium	ug/kg	3400	**38000[bcd]**	85 J	88 J
Chromium	ug/kg	17000 J	8400 J	5800 J	4700 J
Cobalt	ug/kg	3600 J	4900 J	1600 J	1200 J
Copper	ug/kg	95000 J	44000 J	4600 J	3800 J
Iron	ug/kg	**22000000[bc]**	**25000000[bc]**	4300000	2700000

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB312-14	SB312-14	SB312-14	SB312-14
Sample Identification		SO-17360-041414-DR-022	SO-17360-041414-DR-023	SO-17360-041414-DR-024	SO-17360-041414-DR-025
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	160000 J	**650000 J[o]**	2400 J	1700 J
Manganese	ug/kg	240000	36000	56000	41000
Metals (continued)					
Mercury	ug/kg	68	33 J	1.9 J	36 U
Molybdenum	ug/kg	**1800 J[b]**	**2800[b]**	780 J	440 J
Nickel	ug/kg	20000 J	12000 J	4100 J	3600 J
Selenium	ug/kg	**1200 J[d]**	**1200 J[d]**	**840 J[d]**	**750 J[d]**
Silver	ug/kg	2100 U	53 J	10 J	2100 U
Thallium	ug/kg	98 J	200 J	92 J	75 J
Vanadium	ug/kg	16000	12000	8500	6000
Zinc	ug/kg	150000 J	12000 J	8000 J	7900 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1221 (PCB-1221)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1232 (PCB-1232)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1242 (PCB-1242)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1248 (PCB-1248)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1254 (PCB-1254)	ug/kg	95 U	97 U	99 U	90 U
Aroclor-1260 (PCB-1260)	ug/kg	95 U	97 U	99 U	90 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB313-14	SB313-14	SB313-14
Sample Identification		SO-17360-041414-DR-031	SO-17360-041414-DR-032	SO-17360-041414-DR-033	SO-17360-041414-DR-034
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	58 U	54 U	74 U	34 U
1,1,2,2-Tetrachloroethane	ug/kg	58 U	54 U	74 U	34 U
1,1,2-Trichloroethane	ug/kg	58 U	54 U	74 U	34 U
1,1-Dichloroethane	ug/kg	58 U	54 U	74 U	34 U
1,1-Dichloroethene	ug/kg	58 U	54 U	74 U	34 U
1,2,4-Trichlorobenzene	ug/kg	58 U	54 U	74 U	34 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	58 U	54 U	74 U	34 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	58 U	54 U	74 U	34 U
1,2-Dichlorobenzene	ug/kg	58 U	54 U	74 U	34 U
1,2-Dichloroethane	ug/kg	58 U	54 U	74 U	34 U
1,2-Dichloropropane	ug/kg	58 U	54 U	74 U	34 U
1,3-Dichlorobenzene	ug/kg	58 U	54 U	74 U	34 U
1,4-Dichlorobenzene	ug/kg	58 U	54 U	74 U	34 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	390	360 U	230 J	230 U
2-Hexanone	ug/kg	58 U	54 U	74 U	34 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	58 U	54 U	74 U	34 U
Acetone	ug/kg	910	180 U	250	110 U
Benzene	ug/kg	**260[bc]**	**120[bc]**	**420[bc]**	34 U
Bromodichloromethane	ug/kg	58 U	54 U	74 U	34 U
Bromoform	ug/kg	58 U	54 U	74 U	34 U
Bromomethane (Methyl bromide)	ug/kg	140 U	140 U	190 U	85 U
Carbon disulfide	ug/kg	58 U	54 U	74 U	34 U
Carbon tetrachloride	ug/kg	58 U	54 U	74 U	34 U
Chlorobenzene	ug/kg	58 U	54 U	74 U	34 U
Chloroethane	ug/kg	190 U	180 U	250 U	110 U
Chloroform (Trichloromethane)	ug/kg	58 U	54 U	74 U	34 U
Chloromethane (Methyl chloride)	ug/kg	190 U	180 U	250 U	110 U
cis-1,2-Dichloroethene	ug/kg	58 U	54 U	74 U	34 U
cis-1,3-Dichloropropene	ug/kg	58 U	54 U	74 U	34 U
Cyclohexane	ug/kg	980	420	790	34 U
Dibromochloromethane	ug/kg	58 U	54 U	74 U	34 U
Dichlorodifluoromethane (CFC-12)	ug/kg	58 U	54 U	74 U	34 U
Ethylbenzene	ug/kg	300	**400[d]**	**400[d]**	34 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB313-14	SB313-14	SB313-14
Sample Identification		SO-17360-041414-DR-031	SO-17360-041414-DR-032	SO-17360-041414-DR-033	SO-17360-041414-DR-034
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	210	250	220	34 U
Methyl acetate	ug/kg	3600	190 J	270 J	230 U
Methyl cyclohexane	ug/kg	4000	1400	2200	34 U
Methyl tert butyl ether (MTBE)	ug/kg	58 U	54 U	74 U	34 U
Methylene chloride	ug/kg	58 U	54 U	74 U	34 U
Styrene	ug/kg	58 U	54 U	74 U	34 U
Tetrachloroethene	ug/kg	58 U	54 U	74 U	34 U
Toluene	ug/kg	1500	1000	1400	34 U
trans-1,2-Dichloroethene	ug/kg	58 U	54 U	74 U	34 U
trans-1,3-Dichloropropene	ug/kg	58 U	54 U	74 U	34 U
Trichloroethene	ug/kg	58 U	54 U	74 U	34 U
Trichlorofluoromethane (CFC-11)	ug/kg	58 U	54 U	74 U	34 U
Trifluorotrichloroethane (Freon 113)	ug/kg	58 U	54 U	74 U	34 U
Vinyl chloride	ug/kg	58 U	54 U	74 U	34 U
Xylenes (total)	ug/kg	**2500[d]**	**2100[d]**	**2700[d]**	100 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	7.8 U	860	1200	7.0 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB313-14	SB313-14	SB313-14
Sample Identification		SO-17360-041414-DR-031	SO-17360-041414-DR-032	SO-17360-041414-DR-033	SO-17360-041414-DR-034
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.8 U	74 U	77 U	7.0 U
Acenaphthylene	ug/kg	450	74 U	77 U	7.0 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	450	74 J	66 J	7.0 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	880	74 U	77 U	7.0 U
Benzo(a)pyrene	ug/kg	820	140	58 J	7.0 U
Benzo(b)fluoranthene	ug/kg	1300	210	89	7.0 U
Benzo(g,h,i)perylene	ug/kg	320	44 J	77 U	7.0 U
Benzo(k)fluoranthene	ug/kg	540	85	50 J	7.0 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	990	200	130	7.0 U
Dibenz(a,h)anthracene	ug/kg	180	74 U	77 U	7.0 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB313-14	SB313-14	SB313-14
Sample Identification		SO-17360-041414-DR-031	SO-17360-041414-DR-032	SO-17360-041414-DR-033	SO-17360-041414-DR-034
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2300	270	97	4.2 J
Fluorene	ug/kg	230	74 U	77 U	7.0 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	420	41 J	77 U	7.0 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	7.8 U	700	**950[d]**	7.0 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1300	630	610	6.0 J
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1200	270	140	7.0 U
Metals					
Antimony	ug/kg	**8200[bc]**	1000 J	1800 J	76 J
Arsenic	ug/kg	**32000[bcdo]**	5800	**11000[bcdo]**	1900
Barium	ug/kg	85000 J	42000 J	23000 J	12000 J
Beryllium	ug/kg	1000	730 J	250 J	85 J
Cadmium	ug/kg	1200	400 J	360 J	100 J
Chromium	ug/kg	18000 J	6600 J	5000 J	5100 J
Cobalt	ug/kg	**10000[bcd]**	3200	2000 J	1400 J
Copper	ug/kg	130000	20000	30000	4500
Iron	ug/kg	**86000000[bc]**	**20000000[bc]**	**30000000[bc]**	5800000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB313-14	SB313-14	SB313-14
Sample Identification		SO-17360-041414-DR-031	SO-17360-041414-DR-032	SO-17360-041414-DR-033	SO-17360-041414-DR-034
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	110000	27000	19000	2000
Manganese	ug/kg	**510000[bcd]**	250000	27000	38000
Metals (continued)					
Mercury	ug/kg	**230[d]**	32 J	30 J	1.6 J
Molybdenum	ug/kg	**7300[bc]**	**1900 J[b]**	**2100 J[b]**	390 J
Nickel	ug/kg	32000 J	8800 J	6800 J	4600 J
Selenium	ug/kg	**2800[d]**	**1000 J[d]**	**1100 J[d]**	**800 J[d]**
Silver	ug/kg	73 J	15 J	15 J	1700 U
Thallium	ug/kg	890 J	160 J	300 J	1700 U
Vanadium	ug/kg	19000 J	14000 J	8100 J	5800 J
Zinc	ug/kg	120000 J	47000 J	6100 J	10000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1221 (PCB-1221)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1232 (PCB-1232)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1242 (PCB-1242)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1248 (PCB-1248)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1254 (PCB-1254)	ug/kg	94 U	91 U	96 U	86 U
Aroclor-1260 (PCB-1260)	ug/kg	310	91 U	96 U	86 U
Total PCBs	ug/kg	310	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB314-14	SB314-14	SB314-14
Sample Identification		SO-17360-041414-DR-035	SO-17360-041414-DR-042	SO-17360-041414-DR-043	SO-17360-041414-DR-044
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	64 U	60 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	64 U	60 U	33 U
1,1,2-Trichloroethane	ug/kg	32 U	64 U	60 U	33 U
1,1-Dichloroethane	ug/kg	32 U	64 U	60 U	33 U
1,1-Dichloroethene	ug/kg	32 U	64 U	60 U	33 U
1,2,4-Trichlorobenzene	ug/kg	32 U	64 U	60 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	64 U	60 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	64 U	60 U	33 U
1,2-Dichlorobenzene	ug/kg	32 U	64 U	60 U	33 U
1,2-Dichloroethane	ug/kg	32 U	64 U	60 U	33 U
1,2-Dichloropropane	ug/kg	32 U	64 U	60 U	33 U
1,3-Dichlorobenzene	ug/kg	32 U	64 U	60 U	33 U
1,4-Dichlorobenzene	ug/kg	32 U	64 U	60 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	430 U	400 U	220 U
2-Hexanone	ug/kg	32 U	64 U	60 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	64 U	60 U	33 U
Acetone	ug/kg	110 U	830	200 U	110 U
Benzene	ug/kg	32 U	**340**[bc]	60 U	**110 J**[bc]
Bromodichloromethane	ug/kg	32 U	64 U	60 U	33 U
Bromoform	ug/kg	32 U	64 U	60 U	33 U
Bromomethane (Methyl bromide)	ug/kg	79 U	160 U	150 U	81 U
Carbon disulfide	ug/kg	32 U	110	60 U	33 U
Carbon tetrachloride	ug/kg	32 U	64 U	60 U	33 U
Chlorobenzene	ug/kg	32 U	64 U	60 U	33 U
Chloroethane	ug/kg	110 U	210 U	200 U	110 U
Chloroform (Trichloromethane)	ug/kg	32 U	64 U	60 U	33 U
Chloromethane (Methyl chloride)	ug/kg	110 U	210 U	200 U	110 U
cis-1,2-Dichloroethene	ug/kg	32 U	64 U	60 U	33 U
cis-1,3-Dichloropropene	ug/kg	32 U	64 U	60 U	33 U
Cyclohexane	ug/kg	32 U	2700	60 U	150 J
Dibromochloromethane	ug/kg	32 U	64 U	60 U	33 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	64 U	60 U	33 U
Ethylbenzene	ug/kg	32 U	**580**[d]	60 U	350 J

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB314-14	SB314-14	SB314-14
Sample Identification		SO-17360-041414-DR-035	SO-17360-041414-DR-042	SO-17360-041414-DR-043	SO-17360-041414-DR-044
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	1900	60 U	92
Methyl acetate	ug/kg	1400	3000	810	1300
Methyl cyclohexane	ug/kg	32 U	11000	810	570 J
Methyl tert butyl ether (MTBE)	ug/kg	32 U	64 U	60 U	33 U
Methylene chloride	ug/kg	32 U	64 U	60 U	33 U
Styrene	ug/kg	32 U	64 U	60 U	33 U
Tetrachloroethene	ug/kg	32 U	64 U	60 U	33 U
Toluene	ug/kg	32 U	1800	87	1300 J
trans-1,2-Dichloroethene	ug/kg	32 U	64 U	60 U	33 U
trans-1,3-Dichloropropene	ug/kg	32 U	64 U	60 U	33 U
Trichloroethene	ug/kg	32 U	64 U	60 U	33 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	64 U	60 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	64 U	60 U	33 U
Vinyl chloride	ug/kg	32 U	64 U	60 U	33 U
Xylenes (total)	ug/kg	95 U	**3100[d]**	240	**1600 J[d]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	6.9 U	3000	680	95
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB314-14	SB314-14	SB314-14
Sample Identification		SO-17360-041414-DR-035	SO-17360-041414-DR-042	SO-17360-041414-DR-043	SO-17360-041414-DR-044
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	6.9 U	160	160	7.0 U
Acenaphthylene	ug/kg	6.9 U	230	200	4.2 J
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	6.9 U	430	700	9.1
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	6.9 U	870	1300	7.0 U
Benzo(a)pyrene	ug/kg	6.9 U	920	1100	17
Benzo(b)fluoranthene	ug/kg	6.9 U	1900	1500	27
Benzo(g,h,i)perylene	ug/kg	6.9 U	390	380	10
Benzo(k)fluoranthene	ug/kg	6.9 U	820	660	11
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	6.9 U	1300	1600	31
Dibenz(a,h)anthracene	ug/kg	6.9 U	83	60 J	7.0 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB314-14	SB314-14	SB314-14
Sample Identification		SO-17360-041414-DR-035	SO-17360-041414-DR-042	SO-17360-041414-DR-043	SO-17360-041414-DR-044
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	6.9 U	1800	3100	29
Fluorene	ug/kg	6.9 U	180	250	7.0 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.9 U	290	380	8.1
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	6.9 U	**1900[d]**	500	76
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	6.9 U	**5900[d]**	**4600[d]**	78
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	6.9 U	1800	3000	29
Metals					
Antimony	ug/kg	19 J	**9900[bc]**	3500	210 J
Arsenic	ug/kg	570 J	**15000[bcdo]**	**12000[bcdo]**	2900
Barium	ug/kg	10000 J	60000	63000	25000
Beryllium	ug/kg	100 J	1200	1300	150 J
Cadmium	ug/kg	9.3 J	1700	1300	98 J
Chromium	ug/kg	3500 J	**34000[bcd]**	9400	4300
Cobalt	ug/kg	890 J	6800	4600	2200
Copper	ug/kg	5100	94000 J	65000 J	6300 J
Iron	ug/kg	2700000	**60000000[bc]**	**41000000[bc]**	6400000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB313-14	SB314-14	SB314-14	SB314-14
Sample Identification		SO-17360-041414-DR-035	SO-17360-041414-DR-042	SO-17360-041414-DR-043	SO-17360-041414-DR-044
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	1800 J	230000	100000	7100
Manganese	ug/kg	45000	370000	320000	290000
Metals (continued)					
Mercury	ug/kg	1.5 J	**200[d]**	110	21 J
Molybdenum	ug/kg	82 J	**6200[bc]**	**2500[b]**	470 J
Nickel	ug/kg	2800 J	30000	13000	5200
Selenium	ug/kg	**570 J[d]**	**1800 J[d]**	**2100 J[d]**	**630 J[d]**
Silver	ug/kg	1600 U	96 J	68 J	2000 U
Thallium	ug/kg	200 J	480 J	390 J	61 J
Vanadium	ug/kg	4700 J	19000 J	20000 J	6700 J
Zinc	ug/kg	5800 J	240000	190000	25000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1221 (PCB-1221)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1232 (PCB-1232)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1242 (PCB-1242)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1248 (PCB-1248)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1254 (PCB-1254)	ug/kg	85 U	99 U	91 U	87 U
Aroclor-1260 (PCB-1260)	ug/kg	85 U	99 U	91 U	87 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB314-14	SB314-14	SB314-14	SB315-14
Sample Identification		SO-17360-041414-DR-045	SO-17360-041414-DR-046	SO-17360-041414-DR-047	SO-17360-041414-DR-053
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	33 U	33 U	34 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	33 U	33 U	34 U	46 U
1,1,2-Trichloroethane	ug/kg	33 U	33 U	34 U	46 U
1,1-Dichloroethane	ug/kg	33 U	33 U	34 U	46 U
1,1-Dichloroethene	ug/kg	33 U	33 U	34 U	46 U
1,2,4-Trichlorobenzene	ug/kg	33 U	33 U	34 U	46 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	33 U	33 U	34 U	46 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	33 U	33 U	34 U	46 U
1,2-Dichlorobenzene	ug/kg	33 U	33 U	34 U	46 U
1,2-Dichloroethane	ug/kg	33 U	33 U	34 U	46 U
1,2-Dichloropropane	ug/kg	33 U	33 U	34 U	46 U
1,3-Dichlorobenzene	ug/kg	33 U	33 U	34 U	46 U
1,4-Dichlorobenzene	ug/kg	33 U	33 U	34 U	46 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	220 U	230 U	310 U
2-Hexanone	ug/kg	33 U	33 U	34 U	46 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	33 U	33 U	34 U	46 U
Acetone	ug/kg	110 U	110 U	110 U	1600
Benzene	ug/kg	33 UJ	33 U	34 U	**350**[bc]
Bromodichloromethane	ug/kg	33 U	33 U	34 U	46 U
Bromoform	ug/kg	33 U	33 U	34 U	46 U
Bromomethane (Methyl bromide)	ug/kg	83 U	82 U	86 U	120 U
Carbon disulfide	ug/kg	33 U	33 U	34 U	46 U
Carbon tetrachloride	ug/kg	33 U	33 U	34 U	46 U
Chlorobenzene	ug/kg	33 U	33 U	34 U	46 U
Chloroethane	ug/kg	110 U	110 U	110 U	150 U
Chloroform (Trichloromethane)	ug/kg	33 U	33 U	34 U	46 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	110 U	150 U
cis-1,2-Dichloroethene	ug/kg	33 U	33 U	34 U	46 U
cis-1,3-Dichloropropene	ug/kg	33 U	33 U	34 U	46 U
Cyclohexane	ug/kg	33 UJ	33 U	34 U	1800
Dibromochloromethane	ug/kg	33 U	33 U	34 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	33 U	33 U	34 U	46 U
Ethylbenzene	ug/kg	33 UJ	33 U	34 U	**540**[d]

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB314-14	SB314-14	SB314-14	SB315-14
Sample Identification		SO-17360-041414-DR-045	SO-17360-041414-DR-046	SO-17360-041414-DR-047	SO-17360-041414-DR-053
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	33 U	33 U	34 U	290
Methyl acetate	ug/kg	610	700	840	730
Methyl cyclohexane	ug/kg	33 UJ	33 U	34 U	6400
Methyl tert butyl ether (MTBE)	ug/kg	33 U	33 U	34 U	46 U
Methylene chloride	ug/kg	33 U	33 U	34 U	46 U
Styrene	ug/kg	33 U	33 U	34 U	46 U
Tetrachloroethene	ug/kg	33 U	33 U	34 U	46 U
Toluene	ug/kg	33 UJ	33 U	34 U	1900
trans-1,2-Dichloroethene	ug/kg	33 U	33 U	34 U	46 U
trans-1,3-Dichloropropene	ug/kg	33 U	33 U	34 U	46 U
Trichloroethene	ug/kg	33 U	33 U	34 U	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	33 U	33 U	34 U	46 U
Trifluorotrichloroethane (Freon 113)	ug/kg	33 U	33 U	34 U	46 U
Vinyl chloride	ug/kg	33 U	33 U	34 U	46 U
Xylenes (total)	ug/kg	99 UJ	99 U	100 U	**4200**[d]
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	130	6.8 U	6.7 U	4100
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB314-14	SB314-14	SB314-14	SB315-14
Sample Identification		SO-17360-041414-DR-045	SO-17360-041414-DR-046	SO-17360-041414-DR-047	SO-17360-041414-DR-053
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.1 U	6.8 U	6.7 U	150 U
Acenaphthylene	ug/kg	7.1 J	6.8 U	6.7 U	1200
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	15	6.8 U	6.7 U	1400
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	14	6.8 U	6.7 U	3300
Benzo(a)pyrene	ug/kg	30	6.8 U	6.7 U	**3100[o]**
Benzo(b)fluoranthene	ug/kg	54	6.8 U	6.7 U	5000
Benzo(g,h,i)perylene	ug/kg	17	6.8 U	6.7 U	2200
Benzo(k)fluoranthene	ug/kg	21	6.8 U	6.7 U	1400
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	53	6.8 U	6.7 U	3600
Dibenz(a,h)anthracene	ug/kg	6.1 J	6.8 U	6.7 U	740
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB314-14	SB314-14	SB314-14	SB315-14
Sample Identification		SO-17360-041414-DR-045	SO-17360-041414-DR-046	SO-17360-041414-DR-047	SO-17360-041414-DR-053
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	61	6.8 U	6.7 U	**7200[d]**
Fluorene	ug/kg	7.1 J	6.8 U	6.7 U	440
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	14	6.8 U	6.7 U	2500
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	100	6.8 U	6.7 U	**3300[d]**
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	130	6.8 U	6.7 U	**6000[d]**
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	55	6.8 U	6.7 U	5200
Metals					
Antimony	ug/kg	400 J	1800 U	1700 U	**9100[bc]**
Arsenic	ug/kg	5100	1500 J	1200 J	**13000[bcdo]**
Barium	ug/kg	31000	4100	3400	79000
Beryllium	ug/kg	260 J	73 J	54 J	730 J
Cadmium	ug/kg	200 J	21 J	13 J	1800
Chromium	ug/kg	8000	3100	5000	**45000[bcd]**
Cobalt	ug/kg	2800	1400 J	1600 J	5400
Copper	ug/kg	11000 J	3600 J	3600 J	120000 J
Iron	ug/kg	9900000	3300000	3600000	**37000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB314-14	SB314-14	SB314-14	SB315-14
Sample Identification		SO-17360-041414-DR-045	SO-17360-041414-DR-046	SO-17360-041414-DR-047	SO-17360-041414-DR-053
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	11000	1400 J	2100 J	280000
Manganese	ug/kg	340000	29000	61000	**1000000[bcd]**
Metals (continued)					
Mercury	ug/kg	12 J	2.2 J	2.1 J	**200[d]**
Molybdenum	ug/kg	1200 J	1800 U	87 J	**3900[b]**
Nickel	ug/kg	6900	3100	4100	20000
Selenium	ug/kg	**730 J[d]**	**600 J[d]**	380 J	**1800 J[d]**
Silver	ug/kg	2200 U	1800 U	1700 U	160 J
Thallium	ug/kg	79 J	48 J	8500 U	22000 U
Vanadium	ug/kg	10000 J	5100 J	6200 J	12000 J
Zinc	ug/kg	35000	7800	7200	290000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1221 (PCB-1221)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1232 (PCB-1232)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1242 (PCB-1242)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1248 (PCB-1248)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1254 (PCB-1254)	ug/kg	86 U	84 U	81 U	94 U
Aroclor-1260 (PCB-1260)	ug/kg	86 U	84 U	81 U	3500
Total PCBs	ug/kg	0	0	0	3500

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB315-14	SB315-14	SB315-14
Sample Identification		SO-17360-041414-DR-054	SO-17360-041414-DR-055	SO-17360-041414-DR-056	SO-17360-041414-DR-057
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	33 U	33 U	36 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	33 U	33 U	36 U	33 U
1,1,2-Trichloroethane	ug/kg	33 U	33 U	36 U	33 U
1,1-Dichloroethane	ug/kg	33 U	33 U	36 U	33 U
1,1-Dichloroethene	ug/kg	33 U	33 U	36 U	33 U
1,2,4-Trichlorobenzene	ug/kg	33 U	33 U	36 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	33 U	33 U	36 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	33 U	33 U	36 U	33 U
1,2-Dichlorobenzene	ug/kg	33 U	33 U	36 U	33 U
1,2-Dichloroethane	ug/kg	33 U	33 U	36 U	33 U
1,2-Dichloropropane	ug/kg	33 U	33 U	36 U	33 U
1,3-Dichlorobenzene	ug/kg	33 U	33 U	36 U	33 U
1,4-Dichlorobenzene	ug/kg	33 U	33 U	36 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	220 U	240 U	220 U
2-Hexanone	ug/kg	33 U	33 U	36 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	33 U	33 U	36 U	33 U
Acetone	ug/kg	110 U	110 U	120 U	110 U
Benzene	ug/kg	33 U	33 U	36 U	33 U
Bromodichloromethane	ug/kg	33 U	33 U	36 U	33 U
Bromoform	ug/kg	33 U	33 U	36 U	33 U
Bromomethane (Methyl bromide)	ug/kg	82 U	82 U	89 U	82 U
Carbon disulfide	ug/kg	92	110	36 U	73
Carbon tetrachloride	ug/kg	33 U	33 U	36 U	33 U
Chlorobenzene	ug/kg	33 U	33 U	36 U	33 U
Chloroethane	ug/kg	110 U	110 U	120 U	110 U
Chloroform (Trichloromethane)	ug/kg	33 U	33 U	36 U	33 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	120 U	110 U
cis-1,2-Dichloroethene	ug/kg	33 U	33 U	36 U	33 U
cis-1,3-Dichloropropene	ug/kg	33 U	33 U	36 U	33 U
Cyclohexane	ug/kg	33 U	33 U	36 U	33 U
Dibromochloromethane	ug/kg	33 U	33 U	36 U	33 U
Dichlorodifluoromethane (CFC-12)	ug/kg	33 U	33 U	36 U	33 U
Ethylbenzene	ug/kg	33 U	33 U	36 U	33 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB315-14	SB315-14	SB315-14
Sample Identification		SO-17360-041414-DR-054	SO-17360-041414-DR-055	SO-17360-041414-DR-056	SO-17360-041414-DR-057
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	33 U	33 U	36 U	33 U
Methyl acetate	ug/kg	840	780	850	220 U
Methyl cyclohexane	ug/kg	190	170	36 U	33 U
Methyl tert butyl ether (MTBE)	ug/kg	33 U	33 U	36 U	33 U
Methylene chloride	ug/kg	33 U	33 U	36 U	33 U
Styrene	ug/kg	33 U	33 U	36 U	33 U
Tetrachloroethene	ug/kg	33 U	33 U	36 U	33 U
Toluene	ug/kg	33 U	33 U	36 U	33 U
trans-1,2-Dichloroethene	ug/kg	33 U	33 U	36 U	33 U
trans-1,3-Dichloropropene	ug/kg	33 U	33 U	36 U	33 U
Trichloroethene	ug/kg	33 U	33 U	36 U	33 U
Trichlorofluoromethane (CFC-11)	ug/kg	33 U	33 U	36 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	33 U	33 U	36 U	33 U
Vinyl chloride	ug/kg	33 U	33 U	36 U	33 U
Xylenes (total)	ug/kg	98 U	98 U	110 U	98 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	59	83	7.3 U	7.2 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB315-14	SB315-14	SB315-14
Sample Identification		SO-17360-041414-DR-054	SO-17360-041414-DR-055	SO-17360-041414-DR-056	SO-17360-041414-DR-057
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.1 U	7.1 U	7.3 U	7.2 U
Acenaphthylene	ug/kg	7.1 U	7.1 U	7.3 U	7.2 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	7.1 U	7.1 U	7.3 U	7.2 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	53	44	7.3 U	7.2 U
Benzo(a)pyrene	ug/kg	60	49	7.3 U	7.2 U
Benzo(b)fluoranthene	ug/kg	71	63	7.3 U	7.2 U
Benzo(g,h,i)perylene	ug/kg	39	37	7.3 U	7.2 U
Benzo(k)fluoranthene	ug/kg	29	20	7.3 U	7.2 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	50	41	7.3 U	7.2 U
Dibenz(a,h)anthracene	ug/kg	7.1 U	7.1 U	7.3 U	7.2 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB315-14	SB315-14	SB315-14
Sample Identification		SO-17360-041414-DR-054	SO-17360-041414-DR-055	SO-17360-041414-DR-056	SO-17360-041414-DR-057
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	61	48	7.3 U	7.2 U
Fluorene	ug/kg	7.1 U	7.1 U	7.3 U	7.2 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	71	42	7.3 U	7.2 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	42	64	7.3 U	7.2 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	58	67	7.3 U	7.2 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	46	40	7.3 U	7.2 U
Metals					
Antimony	ug/kg	250 J	300 J	310 J	75 J
Arsenic	ug/kg	2000 J	1900 J	3000	1300 J
Barium	ug/kg	42000	47000	46000	10000
Beryllium	ug/kg	250 J	220 J	160 J	83 J
Cadmium	ug/kg	170 J	200 J	92 J	8.8 J
Chromium	ug/kg	5000	4900	4500	5100
Cobalt	ug/kg	2000 J	2100	1900 J	1100 J
Copper	ug/kg	5200 J	6800 J	4600 J	7700 J
Iron	ug/kg	6700000	5500000	7400000	3900000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB315-14	SB315-14	SB315-14
Sample Identification		SO-17360-041414-DR-054	SO-17360-041414-DR-055	SO-17360-041414-DR-056	SO-17360-041414-DR-057
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	7700	16000	5600	2400
Manganese	ug/kg	320000	340000	260000	23000
Metals (continued)					
Mercury	ug/kg	9.7 J	15 J	8.8 J	4.7 J
Molybdenum	ug/kg	420 J	340 J	760 J	240 J
Nickel	ug/kg	4000	3800	3800	3400
Selenium	ug/kg	**750 J[d]**	**630 J[d]**	**710 J[d]**	**800 J[d]**
Silver	ug/kg	16 J	2000 U	1900 U	11 J
Thallium	ug/kg	68 J	54 J	53 J	1700 U
Vanadium	ug/kg	10000 J	7800 J	7800 J	4900 J
Zinc	ug/kg	27000	44000	18000	8100
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1221 (PCB-1221)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1232 (PCB-1232)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1242 (PCB-1242)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1248 (PCB-1248)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1254 (PCB-1254)	ug/kg	90 U	87 U	89 U	88 U
Aroclor-1260 (PCB-1260)	ug/kg	90 U	87 U	89 U	88 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB316-14	SB316-14	SB316-14
Sample Identification		SO-17360-041414-DR-058	SO-17360-041414-DR-064	SO-17360-041414-DR-065	SO-17360-041414-DR-066
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	56 U	38 U	62 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	56 U	38 U	62 U
1,1,2-Trichloroethane	ug/kg	32 U	56 U	38 U	62 U
1,1-Dichloroethane	ug/kg	32 U	56 U	38 U	62 U
1,1-Dichloroethene	ug/kg	32 U	56 U	38 U	62 U
1,2,4-Trichlorobenzene	ug/kg	32 U	56 U	38 U	62 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	56 U	38 U	62 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	56 U	38 U	62 U
1,2-Dichlorobenzene	ug/kg	32 U	56 U	38 U	62 U
1,2-Dichloroethane	ug/kg	32 U	56 U	38 U	62 U
1,2-Dichloropropane	ug/kg	32 U	56 U	38 U	62 U
1,3-Dichlorobenzene	ug/kg	32 U	56 U	38 U	62 U
1,4-Dichlorobenzene	ug/kg	32 U	56 U	38 U	62 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	380 U	260 U	420 U
2-Hexanone	ug/kg	32 U	56 U	38 U	62 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	56 U	38 U	62 U
Acetone	ug/kg	110 U	690	130 U	210 U
Benzene	ug/kg	32 U	**650**[bc]	38 U	**230**[bc]
Bromodichloromethane	ug/kg	32 U	56 U	38 U	62 U
Bromoform	ug/kg	32 U	56 U	38 U	62 U
Bromomethane (Methyl bromide)	ug/kg	79 U	140 U	96 U	160 U
Carbon disulfide	ug/kg	32 U	56 U	38 U	62 U
Carbon tetrachloride	ug/kg	32 U	56 U	38 U	62 U
Chlorobenzene	ug/kg	32 U	56 U	38 U	62 U
Chloroethane	ug/kg	110 U	190 U	130 U	210 UJ
Chloroform (Trichloromethane)	ug/kg	32 U	56 U	38 U	62 U
Chloromethane (Methyl chloride)	ug/kg	110 U	190 U	130 U	210 U
cis-1,2-Dichloroethene	ug/kg	32 U	56 U	38 U	62 U
cis-1,3-Dichloropropene	ug/kg	32 U	56 U	38 U	62 U
Cyclohexane	ug/kg	32 U	1200	270	270
Dibromochloromethane	ug/kg	32 U	56 U	38 U	62 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	56 U	38 U	62 U
Ethylbenzene	ug/kg	32 U	**510**[d]	89	210

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB316-14	SB316-14	SB316-14
Sample Identification		SO-17360-041414-DR-058	SO-17360-041414-DR-064	SO-17360-041414-DR-065	SO-17360-041414-DR-066
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	250	100	170
Methyl acetate	ug/kg	1000	730	1600	2700
Methyl cyclohexane	ug/kg	32 U	4500	1300	1300
Methyl tert butyl ether (MTBE)	ug/kg	32 U	56 U	38 U	62 U
Methylene chloride	ug/kg	32 U	56 U	38 U	62 U
Styrene	ug/kg	32 U	56 U	38 U	62 U
Tetrachloroethene	ug/kg	32 U	56 U	38 U	62 U
Toluene	ug/kg	32 U	3100	170	940
trans-1,2-Dichloroethene	ug/kg	32 U	56 U	38 U	62 U
trans-1,3-Dichloropropene	ug/kg	32 U	56 U	38 U	62 U
Trichloroethene	ug/kg	32 U	56 U	38 U	62 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	56 U	38 U	62 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	56 U	38 U	62 U
Vinyl chloride	ug/kg	32 U	56 U	38 U	62 U
Xylenes (total)	ug/kg	95 U	**3700[d]**	820	**1200[d]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	6.8 U	2600	600	1000
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB316-14	SB316-14	SB316-14
Sample Identification		SO-17360-041414-DR-058	SO-17360-041414-DR-064	SO-17360-041414-DR-065	SO-17360-041414-DR-066
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	6.8 U	160	76 U	8.0 U
Acenaphthylene	ug/kg	6.8 U	330	1900	8.0 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	6.8 U	580	1700	110
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	6.8 U	1200	6400	110
Benzo(a)pyrene	ug/kg	6.8 U	1100	**8700^{op}**	110
Benzo(b)fluoranthene	ug/kg	6.8 U	1200	14000	130
Benzo(g,h,i)perylene	ug/kg	6.8 U	670	2600	73
Benzo(k)fluoranthene	ug/kg	6.8 U	1300	4100	39
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	6.8 U	1300	7700	170
Dibenz(a,h)anthracene	ug/kg	6.8 U	290	1200	8.0 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB316-14	SB316-14	SB316-14
Sample Identification		SO-17360-041414-DR-058	SO-17360-041414-DR-064	SO-17360-041414-DR-065	SO-17360-041414-DR-066
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	6.8 U	2300	**5900[d]**	140
Fluorene	ug/kg	6.8 U	160	76 U	8.0 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.8 U	800	3700	86
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	6.8 U	**1700[d]**	**1100[d]**	640
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	6.8 U	**3700[d]**	1800	580
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	6.8 U	1600	10000	140
Metals					
Antimony	ug/kg	17 J	**4800[bc]**	1400 J	460 J
Arsenic	ug/kg	900 J	**11000[bcdo]**	**7400[bcd]**	**10000[bcdo]**
Barium	ug/kg	3600	67000 J	39000 J	24000 J
Beryllium	ug/kg	61 J	1100	750 J	250 J
Cadmium	ug/kg	11 J	1000	610 J	60 J
Chromium	ug/kg	3500	**22000[d]**	6100	4600
Cobalt	ug/kg	1600 J	5700 J	5100 J	2700 J
Copper	ug/kg	2500 J	73000	26000	9900
Iron	ug/kg	2500000	**37000000[bc]**	**21000000[bc]**	**25000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB315-14	SB316-14	SB316-14	SB316-14
Sample Identification		SO-17360-041414-DR-058	SO-17360-041414-DR-064	SO-17360-041414-DR-065	SO-17360-041414-DR-066
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	1300 J	140000 J	23000 J	4700 J
Manganese	ug/kg	44000	230000	170000	27000
Metals (continued)					
Mercury	ug/kg	0.8 J	98	23 J	34 J
Molybdenum	ug/kg	90 J	**5200[bc]**	**2200[b]**	**1600 J[b]**
Nickel	ug/kg	3300	22000 J	14000 J	7700 J
Selenium	ug/kg	**530 J[d]**	**1900 J[d]**	**1500 J[d]**	**920 J[d]**
Silver	ug/kg	1600 U	81 J	31 J	19 J
Thallium	ug/kg	1600 U	410 J	140 J	120 J
Vanadium	ug/kg	4900 J	18000	12000	8400
Zinc	ug/kg	6800	130000	110000	24000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1221 (PCB-1221)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1232 (PCB-1232)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1242 (PCB-1242)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1248 (PCB-1248)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1254 (PCB-1254)	ug/kg	85 U	99 U	94 U	99 U
Aroclor-1260 (PCB-1260)	ug/kg	85 U	120	94 U	99 U
Total PCBs	ug/kg	0	120	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB316-14	SB316-14	SB316-14	SB317-14
Sample Identification		SO-17360-041414-DR-067	SO-17360-041414-DR-068	SO-17360-041414-DR-069	SO-17360-041414-DR-001
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	62 U	74 U	34 U	73 U
1,1,2,2-Tetrachloroethane	ug/kg	62 U	74 U	34 U	73 U
1,1,2-Trichloroethane	ug/kg	62 U	74 U	34 U	73 U
1,1-Dichloroethane	ug/kg	62 U	74 U	34 U	73 U
1,1-Dichloroethene	ug/kg	62 U	74 U	34 U	73 U
1,2,4-Trichlorobenzene	ug/kg	62 U	74 U	34 U	73 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	62 U	74 U	34 U	73 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	62 U	74 U	34 U	73 U
1,2-Dichlorobenzene	ug/kg	62 U	74 U	34 U	73 U
1,2-Dichloroethane	ug/kg	62 U	74 U	34 U	73 U
1,2-Dichloropropane	ug/kg	62 U	74 U	34 U	73 U
1,3-Dichlorobenzene	ug/kg	62 U	74 U	34 U	73 U
1,4-Dichlorobenzene	ug/kg	62 U	74 U	34 U	73 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	410 U	490 U	230 U	480 U
2-Hexanone	ug/kg	62 U	74 U	34 U	73 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	62 U	74 U	34 U	73 U
Acetone	ug/kg	210 U	250 U	110 U	530
Benzene	ug/kg	62 U	74 U	34 U	**570[bc]**
Bromodichloromethane	ug/kg	62 U	74 U	34 U	73 U
Bromoform	ug/kg	62 U	74 U	34 U	73 U
Bromomethane (Methyl bromide)	ug/kg	150 U	180 U	85 U	180 U
Carbon disulfide	ug/kg	62 U	74 U	34 U	73 U
Carbon tetrachloride	ug/kg	62 U	74 U	34 U	73 U
Chlorobenzene	ug/kg	62 U	74 U	34 U	73 U
Chloroethane	ug/kg	210 U	250 U	110 U	240 U
Chloroform (Trichloromethane)	ug/kg	62 U	74 U	34 U	73 U
Chloromethane (Methyl chloride)	ug/kg	210 U	250 U	110 U	240 U
cis-1,2-Dichloroethene	ug/kg	62 U	74 U	34 U	73 U
cis-1,3-Dichloropropene	ug/kg	62 U	74 U	34 U	73 U
Cyclohexane	ug/kg	62 U	74 U	34 U	1100
Dibromochloromethane	ug/kg	62 U	74 U	34 U	73 U
Dichlorodifluoromethane (CFC-12)	ug/kg	62 U	74 U	34 U	73 U
Ethylbenzene	ug/kg	62 U	74 U	34 U	**760[d]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB316-14	SB316-14	SB316-14	SB317-14
Sample Identification		SO-17360-041414-DR-067	SO-17360-041414-DR-068	SO-17360-041414-DR-069	SO-17360-041414-DR-001
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	62 U	74 U	34 U	690
Methyl acetate	ug/kg	410 U	490 U	1200	310 J
Methyl cyclohexane	ug/kg	400	670	34 U	4400
Methyl tert butyl ether (MTBE)	ug/kg	62 U	74 U	34 U	73 U
Methylene chloride	ug/kg	62 U	74 U	34 U	73 U
Styrene	ug/kg	62 U	74 U	34 U	73 U
Tetrachloroethene	ug/kg	62 U	74 U	34 U	73 U
Toluene	ug/kg	140	210	34 U	2700
trans-1,2-Dichloroethene	ug/kg	62 U	74 U	34 U	73 U
trans-1,3-Dichloropropene	ug/kg	62 U	74 U	34 U	73 U
Trichloroethene	ug/kg	62 U	74 U	34 U	73 U
Trichlorofluoromethane (CFC-11)	ug/kg	62 U	74 U	34 U	73 U
Trifluorotrichloroethane (Freon 113)	ug/kg	62 U	74 U	34 U	73 U
Vinyl chloride	ug/kg	62 U	74 U	34 U	73 U
Xylenes (total)	ug/kg	290	580	100 U	**5300**[d]
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	820	1100	7.4 U	3400
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB316-14	SB316-14	SB316-14	SB317-14
Sample Identification		SO-17360-041414-DR-067	SO-17360-041414-DR-068	SO-17360-041414-DR-069	SO-17360-041414-DR-001
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	18 U	17 U	7.4 U	7.9 U
Acenaphthylene	ug/kg	18 U	17 U	7.4 U	580
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	81	67	7.4 U	370
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	130	120	7.4 U	750
Benzo(a)pyrene	ug/kg	170	130	7.4 U	770
Benzo(b)fluoranthene	ug/kg	190	160	7.4 U	1500
Benzo(g,h,i)perylene	ug/kg	100	89	7.4 U	430
Benzo(k)fluoranthene	ug/kg	66	69	7.4 U	540
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	150	170	7.4 U	1100
Dibenz(a,h)anthracene	ug/kg	18 U	17 U	7.4 U	160
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB316-14	SB316-14	SB316-14	SB317-14
Sample Identification		SO-17360-041414-DR-067	SO-17360-041414-DR-068	SO-17360-041414-DR-069	SO-17360-041414-DR-001
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	180	150	7.4 U	1400
Fluorene	ug/kg	18 U	17 U	7.4 U	87
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	170	94	7.4 U	540
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	570	**740[d]**	7.4 U	**2600[d]**
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	450	520	7.4 U	1700
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	140	130	7.4 U	750
Metals					
Antimony	ug/kg	790 J	1400 J	160 J	570
Arsenic	ug/kg	**11000[bcdo]**	**22000[bcdo]**	2500	3600
Barium	ug/kg	29000 J	35000 J	23000 J	7500
Beryllium	ug/kg	710 J	590 J	35 J	140 J
Cadmium	ug/kg	370 J	290 J	21 J	78 J
Chromium	ug/kg	7400	7800	9200	1700
Cobalt	ug/kg	2600 J	2700 J	870 J	910
Copper	ug/kg	26000	26000	5400	8300
Iron	ug/kg	**25000000[bc]**	**29000000[bc]**	5300000	7100000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB316-14	SB316-14	SB316-14	SB317-14
Sample Identification		SO-17360-041414-DR-067	SO-17360-041414-DR-068	SO-17360-041414-DR-069	SO-17360-041414-DR-001
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	15000 J	17000 J	2800 J	8300
Manganese	ug/kg	27000	22000	18000	15000
Metals (continued)					
Mercury	ug/kg	55 J	56	5.2 J	31 J
Molybdenum	ug/kg	**1600 J[b]**	**2200 J[b]**	760 J	700
Nickel	ug/kg	11000 J	9900 J	3000 J	2200
Selenium	ug/kg	**3200[d]**	**2600[d]**	**1100 J[d]**	380 J
Silver	ug/kg	29 J	22 J	2300 U	6.1 J
Thallium	ug/kg	380 J	430 J	120 J	36 J
Vanadium	ug/kg	15000	23000	6600	3200
Zinc	ug/kg	33000	9600	7800	3100
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1221 (PCB-1221)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1232 (PCB-1232)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1242 (PCB-1242)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1248 (PCB-1248)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1254 (PCB-1254)	ug/kg	110 U	110 U	91 U	100 U
Aroclor-1260 (PCB-1260)	ug/kg	110 U	110 U	91 U	160
Total PCBs	ug/kg	0	0	0	160

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB317-14	SB317-14	SB317-14	SB317-14
Sample Identification		SO-17360-041414-DR-002	SO-17360-041414-DR-003	SO-17360-041414-DR-004	SO-17360-041414-DR-005
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	48 U	49 U	74 U	42 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	49 U	74 U	42 U
1,1,2-Trichloroethane	ug/kg	48 U	49 U	74 U	42 U
1,1-Dichloroethane	ug/kg	48 U	49 U	74 U	42 U
1,1-Dichloroethene	ug/kg	48 U	49 U	74 U	42 U
1,2,4-Trichlorobenzene	ug/kg	48 U	49 U	74 U	42 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	48 U	49 U	74 U	42 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	48 U	49 U	74 U	42 U
1,2-Dichlorobenzene	ug/kg	48 U	49 U	74 U	42 U
1,2-Dichloroethane	ug/kg	48 U	49 U	74 U	42 U
1,2-Dichloropropane	ug/kg	48 U	49 U	74 U	42 U
1,3-Dichlorobenzene	ug/kg	48 U	49 U	74 U	42 U
1,4-Dichlorobenzene	ug/kg	48 U	49 U	74 U	42 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	320 U	330 U	500 U	280 U
2-Hexanone	ug/kg	48 U	49 U	74 U	42 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	48 U	49 U	74 U	42 U
Acetone	ug/kg	160 U	160 U	250 U	140 U
Benzene	ug/kg	48 U	49 U	74 U	42 U
Bromodichloromethane	ug/kg	48 U	49 U	74 U	42 U
Bromoform	ug/kg	48 U	49 U	74 U	42 U
Bromomethane (Methyl bromide)	ug/kg	120 U	120 U	190 U	110 U
Carbon disulfide	ug/kg	48 U	49 U	74 U	42 U
Carbon tetrachloride	ug/kg	48 U	49 U	74 U	42 U
Chlorobenzene	ug/kg	48 U	49 U	74 U	42 U
Chloroethane	ug/kg	160 U	160 U	250 U	140 U
Chloroform (Trichloromethane)	ug/kg	48 U	49 U	74 U	42 U
Chloromethane (Methyl chloride)	ug/kg	160 U	160 U	250 U	140 U
cis-1,2-Dichloroethene	ug/kg	48 U	49 U	74 U	42 U
cis-1,3-Dichloropropene	ug/kg	48 U	49 U	74 U	42 U
Cyclohexane	ug/kg	110	200	74 U	42 U
Dibromochloromethane	ug/kg	48 U	49 U	74 U	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	48 U	49 U	74 U	42 U
Ethylbenzene	ug/kg	52	44 J	74 U	42 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB317-14	SB317-14	SB317-14	SB317-14
Sample Identification		SO-17360-041414-DR-002	SO-17360-041414-DR-003	SO-17360-041414-DR-004	SO-17360-041414-DR-005
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	37 J	22 J	74 U	42 U
Methyl acetate	ug/kg	320 U	170 J	260 J	270 J
Methyl cyclohexane	ug/kg	600	590	74 U	42 U
Methyl tert butyl ether (MTBE)	ug/kg	48 U	49 U	74 U	42 U
Methylene chloride	ug/kg	48 U	49 U	74 U	42 U
Styrene	ug/kg	48 U	49 U	74 U	42 U
Tetrachloroethene	ug/kg	48 U	49 U	74 U	42 U
Toluene	ug/kg	150	120	74 U	42 U
trans-1,2-Dichloroethene	ug/kg	48 U	49 U	74 U	42 U
trans-1,3-Dichloropropene	ug/kg	48 U	49 U	74 U	42 U
Trichloroethene	ug/kg	48 U	49 U	74 U	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	48 U	49 U	74 U	42 U
Trifluorotrichloroethane (Freon 113)	ug/kg	48 U	49 U	74 U	42 U
Vinyl chloride	ug/kg	48 U	49 U	74 U	42 U
Xylenes (total)	ug/kg	600	470	220 U	130 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	2200	310	12 U	9.4 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB317-14	SB317-14	SB317-14	SB317-14
Sample Identification		SO-17360-041414-DR-002	SO-17360-041414-DR-003	SO-17360-041414-DR-004	SO-17360-041414-DR-005
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.5 U	7.3 U	12 U	9.4 U
Acenaphthylene	ug/kg	7.5 U	7.3 U	12 U	9.4 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	110	68	12 U	9.4 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	150	140	12 U	9.4 U
Benzo(a)pyrene	ug/kg	140	130	12 U	9.4 U
Benzo(b)fluoranthene	ug/kg	170	200	12 U	9.4 U
Benzo(g,h,i)perylene	ug/kg	87	78	12 U	9.4 U
Benzo(k)fluoranthene	ug/kg	61	57	12 U	9.4 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	200	160	12 U	9.4 U
Dibenz(a,h)anthracene	ug/kg	7.5 U	7.3 U	12 U	9.4 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB317-14	SB317-14	SB317-14	SB317-14
Sample Identification		SO-17360-041414-DR-002	SO-17360-041414-DR-003	SO-17360-041414-DR-004	SO-17360-041414-DR-005
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	210	210	12 U	9.4 U
Fluorene	ug/kg	7.5 U	7.3 U	12 U	9.4 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	78	84	12 U	9.4 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	**1600[d]**	220	12 U	9.4 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	860	280	12 U	9.4 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	140	120	12 U	9.4 U
Metals					
Antimony	ug/kg	75 J	200 J	440 J	470 J
Arsenic	ug/kg	1400	900	**15000[bcdo]**	4100
Barium	ug/kg	5400	6300	**1100000[d]**	670000
Beryllium	ug/kg	81 J	210	500 J	360 J
Cadmium	ug/kg	17 J	79 J	930 J	500 J
Chromium	ug/kg	1400	2600	**28000[d]**	**22000[d]**
Cobalt	ug/kg	1400	1300	**12000[bcd]**	**7600[bcd]**
Copper	ug/kg	4400	5900	30000	21000
Iron	ug/kg	11000000	4300000	**32000000[bc]**	**21000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB317-14	SB317-14	SB317-14	SB317-14
Sample Identification		SO-17360-041414-DR-002	SO-17360-041414-DR-003	SO-17360-041414-DR-004	SO-17360-041414-DR-005
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	1000	3700	16000	10000
Manganese	ug/kg	4500	50000	**710000[bcd]**	300000
Metals (continued)					
Mercury	ug/kg	14 J	25 J	3.8 J	2.2 J
Molybdenum	ug/kg	950	360 J	**13000[bc]**	**9100[bc]**
Nickel	ug/kg	3700	4000	36000	24000
Selenium	ug/kg	210 J	410 J	**8000[bcd]**	**6600[bcd]**
Silver	ug/kg	2 J	3 J	69 J	61 J
Thallium	ug/kg	41 J	40 J	1000 J	1000 J
Vanadium	ug/kg	2600	4700	45000	40000
Zinc	ug/kg	610 J	19000	58000	41000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1221 (PCB-1221)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1232 (PCB-1232)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1242 (PCB-1242)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1248 (PCB-1248)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1254 (PCB-1254)	ug/kg	92 U	88 U	140 U	110 U
Aroclor-1260 (PCB-1260)	ug/kg	92 U	88 U	140 U	110 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB318-14	SB318-14	SB318-14
Sample Identification		SO-17360-041414-DR-016	SO-17360-041414-DR-017	SO-17360-041414-DR-018	SO-17360-041414-DR-019
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	67 U	89 U	68 U	96 U
1,1,2,2-Tetrachloroethane	ug/kg	67 U	89 U	68 U	96 U
1,1,2-Trichloroethane	ug/kg	67 U	89 U	68 U	96 U
1,1-Dichloroethane	ug/kg	67 U	89 U	68 U	96 U
1,1-Dichloroethene	ug/kg	67 U	89 U	68 U	96 U
1,2,4-Trichlorobenzene	ug/kg	67 U	89 U	68 U	96 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	67 U	89 U	68 U	96 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	67 U	89 U	68 U	96 U
1,2-Dichlorobenzene	ug/kg	67 U	89 U	68 U	96 U
1,2-Dichloroethane	ug/kg	67 U	89 U	68 U	96 U
1,2-Dichloropropane	ug/kg	67 U	89 U	68 U	96 U
1,3-Dichlorobenzene	ug/kg	67 U	89 U	68 U	96 U
1,4-Dichlorobenzene	ug/kg	67 U	89 U	68 U	96 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	450 U	590 U	450 U	640 U
2-Hexanone	ug/kg	67 U	89 U	68 U	96 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	67 U	89 U	68 U	96 U
Acetone	ug/kg	250	300 U	230 U	320 U
Benzene	ug/kg	67 U	**370**[bc]	**170**[bc]	96 U
Bromodichloromethane	ug/kg	67 U	89 U	68 U	96 U
Bromoform	ug/kg	67 U	89 U	68 U	96 U
Bromomethane (Methyl bromide)	ug/kg	170 U	220 U	170 U	240 U
Carbon disulfide	ug/kg	67 U	120	68 U	96 U
Carbon tetrachloride	ug/kg	67 U	89 U	68 U	96 U
Chlorobenzene	ug/kg	67 U	89 U	68 U	96 U
Chloroethane	ug/kg	220 U	300 U	230 U	320 U
Chloroform (Trichloromethane)	ug/kg	67 U	89 U	68 U	96 U
Chloromethane (Methyl chloride)	ug/kg	220 U	300 U	230 U	320 U
cis-1,2-Dichloroethene	ug/kg	67 U	89 U	68 U	96 U
cis-1,3-Dichloropropene	ug/kg	67 U	89 U	68 U	96 U
Cyclohexane	ug/kg	290	1200	240	96 U
Dibromochloromethane	ug/kg	67 U	89 U	68 U	96 U
Dichlorodifluoromethane (CFC-12)	ug/kg	67 U	89 U	68 U	96 U
Ethylbenzene	ug/kg	110	**1100**[d]	110	96 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB318-14	SB318-14	SB318-14
Sample Identification		SO-17360-041414-DR-016	SO-17360-041414-DR-017	SO-17360-041414-DR-018	SO-17360-041414-DR-019
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	100	890	44 J	96 U
Methyl acetate	ug/kg	570	510 J	420 J	260 J
Methyl cyclohexane	ug/kg	1100	4000	870	96 U
Methyl tert butyl ether (MTBE)	ug/kg	67 U	89 U	68 U	96 U
Methylene chloride	ug/kg	67 U	89 U	68 U	96 U
Styrene	ug/kg	67 U	89 U	68 U	96 U
Tetrachloroethene	ug/kg	67 U	89 U	68 U	96 U
Toluene	ug/kg	260	2800	460	96 U
trans-1,2-Dichloroethene	ug/kg	67 U	89 U	68 U	96 U
trans-1,3-Dichloropropene	ug/kg	67 U	89 U	68 U	96 U
Trichloroethene	ug/kg	67 U	89 U	68 U	96 U
Trichlorofluoromethane (CFC-11)	ug/kg	67 U	89 U	68 U	96 U
Trifluorotrichloroethane (Freon 113)	ug/kg	67 U	89 U	68 U	96 U
Vinyl chloride	ug/kg	67 U	89 U	68 U	96 U
Xylenes (total)	ug/kg	740	**6100[bcd]**	**900[d]**	290 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	80 U	79 U	74 U	14 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB318-14	SB318-14	SB318-14
Sample Identification		SO-17360-041414-DR-016	SO-17360-041414-DR-017	SO-17360-041414-DR-018	SO-17360-041414-DR-019
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	80 U	79 U	74 U	14 U
Acenaphthylene	ug/kg	3000	1500	74 U	14 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	1100	79 U	74 U	14 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	4500	1400	470	14 U
Benzo(a)pyrene	ug/kg	**5400[o]**	**2300[o]**	820	130
Benzo(b)fluoranthene	ug/kg	12000	4000	1200	140
Benzo(g,h,i)perylene	ug/kg	2800	1000	1300	78
Benzo(k)fluoranthene	ug/kg	3800	1700	410	74
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	5700	1600	450	14 U
Dibenz(a,h)anthracene	ug/kg	1400	540	360	14 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB318-14	SB318-14	SB318-14
Sample Identification		SO-17360-041414-DR-016	SO-17360-041414-DR-017	SO-17360-041414-DR-018	SO-17360-041414-DR-019
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	5400	1300	74 U	14 U
Fluorene	ug/kg	80 U	79 U	74 U	14 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	3300	1400	1100	120
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	80 U	79 U	74 U	14 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	570	79 U	74 U	14 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	4300	1100	74 U	14 U
Metals					
Antimony	ug/kg	2400	**6100[bc]**	3000	140 J
Arsenic	ug/kg	**15000[bcdo]**	**13000[bcdo]**	**7400[bcd]**	**12000[bcdo]**
Barium	ug/kg	39000 J	53000 J	45000 J	220000 J
Beryllium	ug/kg	940	1100	590 J	1400 U
Cadmium	ug/kg	500 J	1800	710 J	97 J
Chromium	ug/kg	8400 J	9200 J	6800 J	1500 J
Cobalt	ug/kg	4600 J	**7400 J[bcd]**	3800 J	1600 J
Copper	ug/kg	25000 J	130000 J	26000 J	4100 J
Iron	ug/kg	**36000000[bc]**	**38000000[bc]**	**18000000[bc]**	7200000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB318-14	SB318-14	SB318-14
Sample Identification		SO-17360-041414-DR-016	SO-17360-041414-DR-017	SO-17360-041414-DR-018	SO-17360-041414-DR-019
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	51000 J	110000 J	41000 J	18000 U
Manganese	ug/kg	100000	**500000[bcd]**	180000	150000
Metals (continued)					
Mercury	ug/kg	45 J	37 J	56	4.6 J
Molybdenum	ug/kg	**2500[b]**	**2500 J[b]**	1400 J	**3300 J[b]**
Nickel	ug/kg	12000 J	19000 J	9900 J	4800 J
Selenium	ug/kg	**1600 J[d]**	**2100 J[d]**	**1800 J[d]**	**1200 J[d]**
Silver	ug/kg	29 J	31 J	23 J	3500 U
Thallium	ug/kg	290 J	480 J	260 J	18000 U
Vanadium	ug/kg	18000	14000	16000	5900
Zinc	ug/kg	32000 J	30000 J	44000 J	6900 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1221 (PCB-1221)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1232 (PCB-1232)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1242 (PCB-1242)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1248 (PCB-1248)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1254 (PCB-1254)	ug/kg	99 U	100 U	92 U	170 U
Aroclor-1260 (PCB-1260)	ug/kg	99 U	100 U	92 U	170 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB319-14	SB319-14	SB319-14
Sample Identification		SO-17360-041414-DR-020	SO-17360-041414-DR-026	SO-17360-041414-DR-027	SO-17360-041414-DR-028
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	48 U	78 U	76 U	72 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	78 U	76 U	72 U
1,1,2-Trichloroethane	ug/kg	48 U	78 U	76 U	72 U
1,1-Dichloroethane	ug/kg	48 U	78 U	76 U	72 U
1,1-Dichloroethene	ug/kg	48 U	78 U	76 U	72 U
1,2,4-Trichlorobenzene	ug/kg	48 U	78 U	76 U	72 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	48 U	78 U	76 U	72 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	48 U	78 U	76 U	72 U
1,2-Dichlorobenzene	ug/kg	48 U	78 U	76 U	72 U
1,2-Dichloroethane	ug/kg	48 U	78 U	76 U	72 U
1,2-Dichloropropane	ug/kg	48 U	78 U	76 U	72 U
1,3-Dichlorobenzene	ug/kg	48 U	78 U	76 U	72 U
1,4-Dichlorobenzene	ug/kg	48 U	78 U	76 U	72 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	320 U	520 U	230 J	480 U
2-Hexanone	ug/kg	48 U	78 U	76 U	72 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	48 U	78 U	76 U	72 U
Acetone	ug/kg	160 U	260 U	420	240 U
Benzene	ug/kg	48 U	59 J	**440[bc]**	72 U
Bromodichloromethane	ug/kg	48 U	78 U	76 U	72 U
Bromoform	ug/kg	48 U	78 U	76 U	72 U
Bromomethane (Methyl bromide)	ug/kg	120 U	200 U	190 U	180 U
Carbon disulfide	ug/kg	48 U	78 U	76 U	72 U
Carbon tetrachloride	ug/kg	48 U	78 U	76 U	72 U
Chlorobenzene	ug/kg	48 U	78 U	76 U	72 U
Chloroethane	ug/kg	160 U	260 U	250 U	240 U
Chloroform (Trichloromethane)	ug/kg	48 U	78 U	76 U	72 U
Chloromethane (Methyl chloride)	ug/kg	160 U	260 U	250 U	240 U
cis-1,2-Dichloroethene	ug/kg	48 U	78 U	76 U	72 U
cis-1,3-Dichloropropene	ug/kg	48 U	78 U	76 U	72 U
Cyclohexane	ug/kg	48 U	190	1500	72 U
Dibromochloromethane	ug/kg	48 U	78 U	76 U	72 U
Dichlorodifluoromethane (CFC-12)	ug/kg	48 U	78 U	76 U	72 U
Ethylbenzene	ug/kg	48 U	110	**1000[d]**	72 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB319-14	SB319-14	SB319-14
Sample Identification		SO-17360-041414-DR-020	SO-17360-041414-DR-026	SO-17360-041414-DR-027	SO-17360-041414-DR-028
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	48 U	69 J	820	72 U
Methyl acetate	ug/kg	150 J	1200	1300	1200
Methyl cyclohexane	ug/kg	48 U	770	5200	260
Methyl tert butyl ether (MTBE)	ug/kg	48 U	78 U	76 U	72 U
Methylene chloride	ug/kg	48 U	78 U	76 U	72 U
Styrene	ug/kg	48 U	78 U	76 U	72 U
Tetrachloroethene	ug/kg	48 U	78 U	76 U	72 U
Toluene	ug/kg	48 U	270	3700	96
trans-1,2-Dichloroethene	ug/kg	48 U	78 U	76 U	72 U
trans-1,3-Dichloropropene	ug/kg	48 U	78 U	76 U	72 U
Trichloroethene	ug/kg	48 U	78 U	76 U	72 U
Trichlorofluoromethane (CFC-11)	ug/kg	48 U	78 U	76 U	72 U
Trifluorotrichloroethane (Freon 113)	ug/kg	48 U	78 U	76 U	72 U
Vinyl chloride	ug/kg	48 U	78 U	76 U	72 U
Xylenes (total)	ug/kg	150 U	730	**6400**[bcd]	230
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	11 U	80 U	100	7.9 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB319-14	SB319-14	SB319-14
Sample Identification		SO-17360-041414-DR-020	SO-17360-041414-DR-026	SO-17360-041414-DR-027	SO-17360-041414-DR-028
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	11 U	80 U	7.9 U	7.9 U
Acenaphthylene	ug/kg	11 U	80 U	7.9 U	270
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	11 U	250	24	88
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	11 U	790	96	410
Benzo(a)pyrene	ug/kg	11 U	1400	150	610
Benzo(b)fluoranthene	ug/kg	11 U	2100	200	940
Benzo(g,h,i)perylene	ug/kg	11 U	910	97	250
Benzo(k)fluoranthene	ug/kg	11 U	900	76	390
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	11 U	910	98	570
Dibenz(a,h)anthracene	ug/kg	11 U	490	63	82
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB318-14	SB319-14	SB319-14	SB319-14
Sample Identification		SO-17360-041414-DR-020	SO-17360-041414-DR-026	SO-17360-041414-DR-027	SO-17360-041414-DR-028
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	11 U	860	74	290
Fluorene	ug/kg	11 U	80 U	7.9 U	7.9 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	11 U	1400	120	280
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	11 U	80 U	73	7.9 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	11 U	200	94	76
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	11 U	540	67	190
Metals					
Antimony	ug/kg	55 J	**13000[bc]**	2900	1300 J
Arsenic	ug/kg	990 J	**24000[bcdo]**	**13000[bcdo]**	**8100[bcdo]**
Barium	ug/kg	150000 J	52000 J	27000 J	70000 J
Beryllium	ug/kg	68 J	1100	570 J	960
Cadmium	ug/kg	63 J	2100	480 J	660 J
Chromium	ug/kg	4500 J	11000 J	6500 J	7900 J
Cobalt	ug/kg	1600 J	6200 J	3400	5500
Copper	ug/kg	4800 J	100000 J	33000	27000
Iron	ug/kg	4900000	**35000000[bc]**	**34000000[bc]**	**23000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB318-14**	**SB319-14**	**SB319-14**	**SB319-14**
Sample Identification		**SO-17360-041414-DR-020**	**SO-17360-041414-DR-026**	**SO-17360-041414-DR-027**	**SO-17360-041414-DR-028**
Sample Date		**4/14/2014**	**4/14/2014**	**4/14/2014**	**4/14/2014**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27**	**AOI 27**	**AOI 27**	**AOI 27**
Lead	ug/kg	2100 J	180000 J	81000	39000
Manganese	ug/kg	140000	97000	40000	280000
Metals (continued)					
Mercury	ug/kg	1.5 J	99	18 J	62
Molybdenum	ug/kg	**2100 J[b]**	**3500[b]**	**2000 J[b]**	**1700 J[b]**
Nickel	ug/kg	5100 J	16000 J	8000 J	28000 J
Selenium	ug/kg	**1200 J[d]**	**2600 J[d]**	**1300 J[d]**	**2300[d]**
Silver	ug/kg	3000 U	64 J	26 J	28 J
Thallium	ug/kg	15000 U	310 J	240 J	560 J
Vanadium	ug/kg	6000	22000	12000 J	17000 J
Zinc	ug/kg	11000 J	79000 J	13000 J	70000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1221 (PCB-1221)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1232 (PCB-1232)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1242 (PCB-1242)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1248 (PCB-1248)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1254 (PCB-1254)	ug/kg	130 U	100 U	99 U	95 U
Aroclor-1260 (PCB-1260)	ug/kg	130 U	100 U	99 U	95 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB319-14	SB319-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-029	SO-17360-041414-DR-030	SO-17360-041414-DR-036	SO-17360-041414-DR-037
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	83 U	48 U	68 U	67 U
1,1,2,2-Tetrachloroethane	ug/kg	83 U	48 U	68 U	67 U
1,1,2-Trichloroethane	ug/kg	83 U	48 U	68 U	67 U
1,1-Dichloroethane	ug/kg	83 U	48 U	68 U	67 U
1,1-Dichloroethene	ug/kg	83 U	48 U	68 U	67 U
1,2,4-Trichlorobenzene	ug/kg	83 U	48 U	68 U	67 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	83 U	48 U	68 U	67 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	83 U	48 U	68 U	67 U
1,2-Dichlorobenzene	ug/kg	83 U	48 U	68 U	67 U
1,2-Dichloroethane	ug/kg	83 U	48 U	68 U	67 U
1,2-Dichloropropane	ug/kg	83 U	48 U	68 U	67 U
1,3-Dichlorobenzene	ug/kg	83 U	48 U	68 U	67 U
1,4-Dichlorobenzene	ug/kg	83 U	48 U	68 U	67 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	550 U	320 U	200 J	450 U
2-Hexanone	ug/kg	83 U	48 U	68 U	67 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	83 U	48 U	68 U	67 U
Acetone	ug/kg	280 U	160 U	310	220 U
Benzene	ug/kg	83 U	48 U	**360[bc]**	**370[bc]**
Bromodichloromethane	ug/kg	83 U	48 U	68 U	67 U
Bromoform	ug/kg	83 U	48 U	68 U	67 U
Bromomethane (Methyl bromide)	ug/kg	210 U	120 U	170 U	170 U
Carbon disulfide	ug/kg	83 U	48 U	68 U	140
Carbon tetrachloride	ug/kg	83 U	48 U	68 U	67 U
Chlorobenzene	ug/kg	83 U	48 U	68 U	67 U
Chloroethane	ug/kg	280 U	160 U	230 U	220 U
Chloroform (Trichloromethane)	ug/kg	83 U	48 U	68 U	67 U
Chloromethane (Methyl chloride)	ug/kg	280 U	160 U	230 U	220 U
cis-1,2-Dichloroethene	ug/kg	83 U	48 U	68 U	67 U
cis-1,3-Dichloropropene	ug/kg	83 U	48 U	68 U	67 U
Cyclohexane	ug/kg	83 U	48 U	1300	960
Dibromochloromethane	ug/kg	83 U	48 U	68 U	67 U
Dichlorodifluoromethane (CFC-12)	ug/kg	83 U	48 U	68 U	67 U
Ethylbenzene	ug/kg	83 U	48 U	**840[d]**	**640[d]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB319-14	SB319-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-029	SO-17360-041414-DR-030	SO-17360-041414-DR-036	SO-17360-041414-DR-037
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	83 U	48 U	600	520
Methyl acetate	ug/kg	1000	860	380 J	450 U
Methyl cyclohexane	ug/kg	83 U	48 U	4300	3400
Methyl tert butyl ether (MTBE)	ug/kg	83 U	48 U	68 U	67 U
Methylene chloride	ug/kg	83 U	48 U	68 U	67 U
Styrene	ug/kg	83 U	48 U	68 U	67 U
Tetrachloroethene	ug/kg	83 U	48 U	68 U	67 U
Toluene	ug/kg	83 U	48 U	2800	1900
trans-1,2-Dichloroethene	ug/kg	83 U	48 U	68 U	67 U
trans-1,3-Dichloropropene	ug/kg	83 U	48 U	68 U	67 U
Trichloroethene	ug/kg	83 U	48 U	68 U	67 U
Trichlorofluoromethane (CFC-11)	ug/kg	83 U	48 U	68 U	67 U
Trifluorotrichloroethane (Freon 113)	ug/kg	83 U	48 U	68 U	67 U
Vinyl chloride	ug/kg	83 U	48 U	68 U	67 U
Xylenes (total)	ug/kg	250 U	150 U	**5100[d]**	**4200[d]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	14 U	11 U	830	1700
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB319-14	SB319-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-029	SO-17360-041414-DR-030	SO-17360-041414-DR-036	SO-17360-041414-DR-037
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	14 U	11 U	81 U	75 U
Acenaphthylene	ug/kg	14 U	11 U	190	75 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	14 U	11 U	170	83
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	14 U	11 U	610	75 U
Benzo(a)pyrene	ug/kg	14 U	11 U	820	79
Benzo(b)fluoranthene	ug/kg	14 U	11 U	1900	140
Benzo(g,h,i)perylene	ug/kg	14 U	11 U	370	75 U
Benzo(k)fluoranthene	ug/kg	14 U	11 U	620	68 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	14 U	11 U	1300	170
Dibenz(a,h)anthracene	ug/kg	14 U	11 U	120	75 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB319-14	SB319-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-029	SO-17360-041414-DR-030	SO-17360-041414-DR-036	SO-17360-041414-DR-037
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	14 U	11 U	990	150
Fluorene	ug/kg	14 U	11 U	81 U	75 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	14 U	11 U	400	75 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	14 U	11 U	730	**1400[d]**
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	14 U	11 U	750	760
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	14 U	11 U	1000	210
Metals					
Antimony	ug/kg	120 J	74 J	2400 J	480 J
Arsenic	ug/kg	**6500[bcd]**	3100 U	**10000[bcdo]**	**7800[bcdo]**
Barium	ug/kg	190000 J	140000 J	54000 J	30000 J
Beryllium	ug/kg	35 J	100 J	490 J	400 J
Cadmium	ug/kg	110 J	120 J	440 J	100 J
Chromium	ug/kg	1700 J	5500 J	5500 J	5500 J
Cobalt	ug/kg	1300 J	1800 J	5300	6200
Copper	ug/kg	3700 J	7300	33000	19000
Iron	ug/kg	5900000	4800000	**22000000[bc]**	**29000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB319-14	SB319-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-029	SO-17360-041414-DR-030	SO-17360-041414-DR-036	SO-17360-041414-DR-037
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	2500 J	2900 J	52000	5100
Manganese	ug/kg	150000	73000	67000	22000
Metals (continued)					
Mercury	ug/kg	1.6 J	2.3 J	49	15 J
Molybdenum	ug/kg	**3000 J[b]**	**2000 J[b]**	**1700 J[b]**	**2100 J[b]**
Nickel	ug/kg	5000 J	5900 J	10000 J	14000 J
Selenium	ug/kg	**740 J[d]**	**1300 J[d]**	**1400 J[d]**	**860 J[d]**
Silver	ug/kg	3900 U	3100 U	12 J	28 J
Thallium	ug/kg	20000 U	15000 U	96 J	72 J
Vanadium	ug/kg	4400 J	7800 J	10000 J	12000 J
Zinc	ug/kg	7100 J	15000 J	14000 J	4200 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1221 (PCB-1221)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1232 (PCB-1232)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1242 (PCB-1242)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1248 (PCB-1248)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1254 (PCB-1254)	ug/kg	170 U	130 U	100 U	92 U
Aroclor-1260 (PCB-1260)	ug/kg	170 U	130 U	100 U	92 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB320-14	SB320-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-038	SO-17360-041414-DR-039	SO-17360-041414-DR-040	SO-17360-041414-DR-041
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	52 U	70 U	34 U	34 U
1,1,2,2-Tetrachloroethane	ug/kg	52 U	70 U	34 U	34 U
1,1,2-Trichloroethane	ug/kg	52 U	70 U	34 U	34 U
1,1-Dichloroethane	ug/kg	52 U	70 U	34 U	34 U
1,1-Dichloroethene	ug/kg	52 U	70 U	34 U	34 U
1,2,4-Trichlorobenzene	ug/kg	52 U	70 U	34 U	34 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	52 U	70 U	34 U	34 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	52 U	70 U	34 U	34 U
1,2-Dichlorobenzene	ug/kg	52 U	70 U	34 U	34 U
1,2-Dichloroethane	ug/kg	52 U	70 U	34 U	34 U
1,2-Dichloropropane	ug/kg	52 U	70 U	34 U	34 U
1,3-Dichlorobenzene	ug/kg	52 U	70 U	34 U	34 U
1,4-Dichlorobenzene	ug/kg	52 U	70 U	34 U	34 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	340 U	470 U	220 U	230 U
2-Hexanone	ug/kg	52 U	70 U	34 U	34 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	52 U	70 U	34 U	34 U
Acetone	ug/kg	170 U	230 U	110 U	110 U
Benzene	ug/kg	**130**[bc]	70 U	34 U	34 U
Bromodichloromethane	ug/kg	52 U	70 U	34 U	34 U
Bromoform	ug/kg	52 U	70 U	34 U	34 U
Bromomethane (Methyl bromide)	ug/kg	130 U	180 U	84 U	85 U
Carbon disulfide	ug/kg	52 U	70 U	34 U	34 U
Carbon tetrachloride	ug/kg	52 U	70 U	34 U	34 U
Chlorobenzene	ug/kg	52 U	70 U	34 U	34 U
Chloroethane	ug/kg	170 U	230 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	52 U	70 U	34 U	34 U
Chloromethane (Methyl chloride)	ug/kg	170 U	230 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	52 U	70 U	34 U	34 U
cis-1,3-Dichloropropene	ug/kg	52 U	70 U	34 U	34 U
Cyclohexane	ug/kg	280	70 U	34 U	34 U
Dibromochloromethane	ug/kg	52 U	70 U	34 U	34 U
Dichlorodifluoromethane (CFC-12)	ug/kg	52 U	70 U	34 U	34 U
Ethylbenzene	ug/kg	64	70 U	34 U	34 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB320-14	SB320-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-038	SO-17360-041414-DR-039	SO-17360-041414-DR-040	SO-17360-041414-DR-041
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	40 J	70 U	34 U	34 U
Methyl acetate	ug/kg	250 J	470 U	220 UJ	1200 J
Methyl cyclohexane	ug/kg	800	70 U	34 U	34 U
Methyl tert butyl ether (MTBE)	ug/kg	52 U	70 U	34 U	34 U
Methylene chloride	ug/kg	52 U	70 U	34 U	34 U
Styrene	ug/kg	52 U	70 U	34 U	34 U
Tetrachloroethene	ug/kg	52 U	70 U	34 U	34 U
Toluene	ug/kg	310	70 U	34 U	34 U
trans-1,2-Dichloroethene	ug/kg	52 U	70 U	34 U	34 U
trans-1,3-Dichloropropene	ug/kg	52 U	70 U	34 U	34 U
Trichloroethene	ug/kg	52 U	70 U	34 U	34 U
Trichlorofluoromethane (CFC-11)	ug/kg	52 U	70 U	34 U	34 U
Trifluorotrichloroethane (Freon 113)	ug/kg	52 U	70 U	34 U	34 U
Vinyl chloride	ug/kg	52 U	70 U	34 U	34 U
Xylenes (total)	ug/kg	540	210 U	100 U	100 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB320-14	SB320-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-038	SO-17360-041414-DR-039	SO-17360-041414-DR-040	SO-17360-041414-DR-041
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
Acenaphthylene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	41	12 U	7.2 U	5.5 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	96	12 U	7.2 U	7.3 U
Benzo(a)pyrene	ug/kg	110	12 U	7.2 U	8.0
Benzo(b)fluoranthene	ug/kg	170	12 U	7.2 U	9.5
Benzo(g,h,i)perylene	ug/kg	77	12 U	7.2 U	7.3 U
Benzo(k)fluoranthene	ug/kg	81	12 U	7.2 U	5.8 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	100	12 U	7.2 U	7.3 J
Dibenz(a,h)anthracene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB320-14	SB320-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-038	SO-17360-041414-DR-039	SO-17360-041414-DR-040	SO-17360-041414-DR-041
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	90	12 U	7.2 U	20
Fluorene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	110	12 U	7.2 U	7.3 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	7.2 U	12 U	7.2 U	7.3 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	53	12 U	7.2 U	20
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	63	12 U	7.2 U	16
Metals					
Antimony	ug/kg	540 J	180 J	140 J	140 J
Arsenic	ug/kg	3400	4500	2900	2200
Barium	ug/kg	20000 J	230000	64000	50000
Beryllium	ug/kg	270 J	97 J	86 J	77 J
Cadmium	ug/kg	300 J	160 J	97 J	80 J
Chromium	ug/kg	6200 J	2800 J	4100	4300
Cobalt	ug/kg	3000	940 J	1700 J	1500 J
Copper	ug/kg	14000	5100 J	5500 J	5600 J
Iron	ug/kg	9600000	5200000	4900000	3800000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB320-14	SB320-14	SB320-14	SB320-14
Sample Identification		SO-17360-041414-DR-038	SO-17360-041414-DR-039	SO-17360-041414-DR-040	SO-17360-041414-DR-041
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					Duplicate
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	12000	3900 J	2000	1800 J
Manganese	ug/kg	160000	120000	56000	45000
Metals (continued)					
Mercury	ug/kg	17 J	2 J	2.7 J	2.3 J
Molybdenum	ug/kg	970 J	**3900[b]**	**2300[b]**	1400 J
Nickel	ug/kg	8000 J	4600	4700	4200
Selenium	ug/kg	**1000 J[d]**	**980 J[d]**	**1200 J[d]**	**1700 J[d]**
Silver	ug/kg	22 J	17 J	1900 U	2000 U
Thallium	ug/kg	88 J	17000 U	93 J	80 J
Vanadium	ug/kg	9400 J	4400 J	7800 J	8000 J
Zinc	ug/kg	22000 J	7300	9800	9100
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1221 (PCB-1221)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1232 (PCB-1232)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1242 (PCB-1242)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1248 (PCB-1248)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1254 (PCB-1254)	ug/kg	89 U	140 U	86 U	90 U
Aroclor-1260 (PCB-1260)	ug/kg	89 U	140 U	86 U	90 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB321-14	SB321-14	SB321-14
Sample Identification		SO-17360-041414-DR-048	SO-17360-041414-DR-049	SO-17360-041414-DR-050	SO-17360-041414-DR-051
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	93 U	33 U	85 U	32 U
1,1,2,2-Tetrachloroethane	ug/kg	93 U	33 U	85 U	32 U
1,1,2-Trichloroethane	ug/kg	93 U	33 U	85 U	32 U
1,1-Dichloroethane	ug/kg	93 U	33 U	85 U	32 U
1,1-Dichloroethene	ug/kg	93 U	33 U	85 U	32 U
1,2,4-Trichlorobenzene	ug/kg	93 U	33 U	85 U	32 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	93 U	33 U	85 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	93 U	33 U	85 U	32 U
1,2-Dichlorobenzene	ug/kg	93 U	33 U	85 U	32 U
1,2-Dichloroethane	ug/kg	93 U	33 U	85 U	32 U
1,2-Dichloropropane	ug/kg	93 U	33 U	85 U	32 U
1,3-Dichlorobenzene	ug/kg	93 U	33 U	85 U	32 U
1,4-Dichlorobenzene	ug/kg	93 U	33 U	85 U	32 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	620 U	220 U	570 U	210 U
2-Hexanone	ug/kg	93 U	33 U	85 U	32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	93 U	33 U	85 U	32 U
Acetone	ug/kg	310 U	110 U	280 U	110 U
Benzene	ug/kg	93 U	**170**[bc]	85 U	32 U
Bromodichloromethane	ug/kg	93 U	33 U	85 U	32 U
Bromoform	ug/kg	93 U	33 U	85 U	32 U
Bromomethane (Methyl bromide)	ug/kg	230 U	83 U	210 U	80 U
Carbon disulfide	ug/kg	93 U	33 U	85 U	32 U
Carbon tetrachloride	ug/kg	93 U	33 U	85 U	32 U
Chlorobenzene	ug/kg	93 U	33 U	85 U	32 U
Chloroethane	ug/kg	310 U	110 U	280 U	110 U
Chloroform (Trichloromethane)	ug/kg	93 U	33 U	85 U	32 U
Chloromethane (Methyl chloride)	ug/kg	310 U	110 U	280 U	110 U
cis-1,2-Dichloroethene	ug/kg	93 U	33 U	85 U	32 U
cis-1,3-Dichloropropene	ug/kg	93 U	33 U	85 U	32 U
Cyclohexane	ug/kg	93 U	370	85 U	32 U
Dibromochloromethane	ug/kg	93 U	33 U	85 U	32 U
Dichlorodifluoromethane (CFC-12)	ug/kg	93 U	33 U	85 U	32 U
Ethylbenzene	ug/kg	93 U	220	85 U	32 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB321-14	SB321-14	SB321-14
Sample Identification		SO-17360-041414-DR-048	SO-17360-041414-DR-049	SO-17360-041414-DR-050	SO-17360-041414-DR-051
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	93 U	56	85 U	32 U
Methyl acetate	ug/kg	2100	780	570 U	78 J
Methyl cyclohexane	ug/kg	910	860	85 U	32 U
Methyl tert butyl ether (MTBE)	ug/kg	93 U	33 U	85 U	32 U
Methylene chloride	ug/kg	93 U	33 U	85 U	32 U
Styrene	ug/kg	93 U	33 U	85 U	32 U
Tetrachloroethene	ug/kg	93 U	33 U	85 U	32 U
Toluene	ug/kg	93 U	1200	85 U	32 U
trans-1,2-Dichloroethene	ug/kg	93 U	33 U	85 U	32 U
trans-1,3-Dichloropropene	ug/kg	93 U	33 U	85 U	32 U
Trichloroethene	ug/kg	93 U	33 U	85 U	32 U
Trichlorofluoromethane (CFC-11)	ug/kg	93 U	33 U	85 U	32 U
Trifluorotrichloroethane (Freon 113)	ug/kg	93 U	33 U	85 U	32 U
Vinyl chloride	ug/kg	93 U	33 U	85 U	32 U
Xylenes (total)	ug/kg	280 U	**2100**[d]	250 U	96 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	520	1300	12 U	7.0 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB321-14	SB321-14	SB321-14
Sample Identification		SO-17360-041414-DR-048	SO-17360-041414-DR-049	SO-17360-041414-DR-050	SO-17360-041414-DR-051
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	56 U	34 U	12 U	7.0 U
Acenaphthylene	ug/kg	530	34 U	12 U	7.0 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	500	85	12 U	4.9 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1100	270	12 U	7.0 U
Benzo(a)pyrene	ug/kg	1700	320	17	14
Benzo(b)fluoranthene	ug/kg	2900	420	31	14
Benzo(g,h,i)perylene	ug/kg	810	210	12 U	8.4
Benzo(k)fluoranthene	ug/kg	810	120	15	6.3 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	1800	240	31	14
Dibenz(a,h)anthracene	ug/kg	370	100	12 U	7.0 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB321-14	SB321-14	SB321-14
Sample Identification		SO-17360-041414-DR-048	SO-17360-041414-DR-049	SO-17360-041414-DR-050	SO-17360-041414-DR-051
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1400	190	20	21
Fluorene	ug/kg	56 U	34 U	12 U	7.0 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	940	240	12 U	6.6 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	380	**1000[d]**	12 U	7.0 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	**2900[d]**	650	12 U	17
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1300	190	20	18
Metals					
Antimony	ug/kg	1200 J	**6200[bc]**	500 J	43 J
Arsenic	ug/kg	**12000[bcdo]**	**28000[bcdo]**	4100	2400
Barium	ug/kg	70000	48000	29000	12000
Beryllium	ug/kg	2700	460 J	250 J	48 J
Cadmium	ug/kg	1400	530 J	380 J	58 J
Chromium	ug/kg	12000	6200	9000	5700
Cobalt	ug/kg	6100	4100	1600 J	1600 J
Copper	ug/kg	30000 J	55000 J	13000 J	6800 J
Iron	ug/kg	**40000000[bc]**	**49000000[bc]**	5500000	5700000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB321-14	SB321-14	SB321-14
Sample Identification		SO-17360-041414-DR-048	SO-17360-041414-DR-049	SO-17360-041414-DR-050	SO-17360-041414-DR-051
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	42000	110000	10000	2500
Manganese	ug/kg	210000	98000	82000	37000
Metals (continued)					
Mercury	ug/kg	100	21 J	76	1.8 J
Molybdenum	ug/kg	**5500[bc]**	**1800 J[b]**	390 J	540 J
Nickel	ug/kg	19000	9000	6200	4100
Selenium	ug/kg	**2500 J[d]**	**1400 J[d]**	**4600[bcd]**	**640 J[d]**
Silver	ug/kg	29 J	37 J	3500 U	2100 U
Thallium	ug/kg	530 J	470 J	87 J	2100 U
Vanadium	ug/kg	38000 J	10000 J	25000 J	5000 J
Zinc	ug/kg	130000	17000	8500	9000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1221 (PCB-1221)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1232 (PCB-1232)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1242 (PCB-1242)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1248 (PCB-1248)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1254 (PCB-1254)	ug/kg	140 U	86 U	140 U	88 U
Aroclor-1260 (PCB-1260)	ug/kg	140 U	86 U	140 U	88 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB322-14	SB322-14	SB322-14
Sample Identification		SO-17360-041414-DR-052	SO-17360-041414-DR-059	SO-17360-041414-DR-060	SO-17360-041414-DR-061
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	59 U	48 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	59 U	48 U	37 U
1,1,2-Trichloroethane	ug/kg	32 U	59 U	48 U	37 U
1,1-Dichloroethane	ug/kg	32 U	59 U	48 U	37 U
1,1-Dichloroethene	ug/kg	32 U	59 U	48 U	37 U
1,2,4-Trichlorobenzene	ug/kg	32 U	59 U	48 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	59 U	48 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	59 U	48 U	37 U
1,2-Dichlorobenzene	ug/kg	32 U	59 U	48 U	37 U
1,2-Dichloroethane	ug/kg	32 U	59 U	48 U	37 U
1,2-Dichloropropane	ug/kg	32 U	59 U	48 U	37 U
1,3-Dichlorobenzene	ug/kg	32 U	59 U	48 U	37 U
1,4-Dichlorobenzene	ug/kg	32 U	59 U	48 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	390 U	320 U	250 U
2-Hexanone	ug/kg	32 U	59 U	48 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	59 U	48 U	37 U
Acetone	ug/kg	110 U	200 U	160 U	120 U
Benzene	ug/kg	32 U	59 U	**1200**[bc]	37 U
Bromodichloromethane	ug/kg	32 U	59 U	48 U	37 U
Bromoform	ug/kg	32 U	59 U	48 U	37 U
Bromomethane (Methyl bromide)	ug/kg	80 U	150 U	120 U	92 U
Carbon disulfide	ug/kg	32 U	120	140	37 U
Carbon tetrachloride	ug/kg	32 U	59 U	48 U	37 U
Chlorobenzene	ug/kg	32 U	59 U	48 U	37 U
Chloroethane	ug/kg	110 U	200 UJ	160 U	120 U
Chloroform (Trichloromethane)	ug/kg	32 U	59 U	48 U	37 U
Chloromethane (Methyl chloride)	ug/kg	110 U	200 U	160 U	120 U
cis-1,2-Dichloroethene	ug/kg	32 U	59 U	48 U	37 U
cis-1,3-Dichloropropene	ug/kg	32 U	59 U	48 U	37 U
Cyclohexane	ug/kg	32 U	59 U	1100	37 U
Dibromochloromethane	ug/kg	32 U	59 U	48 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	59 U	48 U	37 U
Ethylbenzene	ug/kg	32 U	59 U	**1200**[d]	37 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB322-14	SB322-14	SB322-14
Sample Identification		SO-17360-041414-DR-052	SO-17360-041414-DR-059	SO-17360-041414-DR-060	SO-17360-041414-DR-061
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	59 U	770	37 U
Methyl acetate	ug/kg	210 U	2400	380	250 U
Methyl cyclohexane	ug/kg	32 U	860	3800	37 U
Methyl tert butyl ether (MTBE)	ug/kg	32 U	59 U	48 U	37 U
Methylene chloride	ug/kg	32 U	59 U	48 U	37 U
Styrene	ug/kg	32 U	59 U	48 U	37 U
Tetrachloroethene	ug/kg	32 U	59 U	48 U	37 U
Toluene	ug/kg	32 U	81	5200	44
trans-1,2-Dichloroethene	ug/kg	32 U	59 U	48 U	37 U
trans-1,3-Dichloropropene	ug/kg	32 U	59 U	48 U	37 U
Trichloroethene	ug/kg	32 U	59 U	48 U	37 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	59 U	48 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	59 U	48 U	37 U
Vinyl chloride	ug/kg	32 U	59 U	48 U	37 U
Xylenes (total)	ug/kg	97 U	240	**6000**[bcd]	47 J
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	6.8 U	610	2100	7.6 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB322-14	SB322-14	SB322-14
Sample Identification		SO-17360-041414-DR-052	SO-17360-041414-DR-059	SO-17360-041414-DR-060	SO-17360-041414-DR-061
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	6.8 U	81 U	7.6 U	7.6 U
Acenaphthylene	ug/kg	6.8 U	300	7.6 U	7.6 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	6.8 U	240	110	7.6 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	6.8 U	870	240	21
Benzo(a)pyrene	ug/kg	6.8 U	1100	240	7.6 U
Benzo(b)fluoranthene	ug/kg	6.8 U	2100	370	7.6 U
Benzo(g,h,i)perylene	ug/kg	6.8 U	640	140	7.6 U
Benzo(k)fluoranthene	ug/kg	6.8 U	700	140	7.6 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	6.8 U	1200	400	7.6 U
Dibenz(a,h)anthracene	ug/kg	6.8 U	430	56	7.6 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB322-14	SB322-14	SB322-14
Sample Identification		SO-17360-041414-DR-052	SO-17360-041414-DR-059	SO-17360-041414-DR-060	SO-17360-041414-DR-061
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	6.8 U	770	240	7.6 U
Fluorene	ug/kg	6.8 U	81 U	7.6 U	7.6 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	6.8 U	670	170	7.6 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	6.8 U	610	**1600[d]**	7.6 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	6.8 U	1600	1000	39
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	6.8 U	750	210	7.6 U
Metals					
Antimony	ug/kg	130 J	1600 J	960 J	220 J
Arsenic	ug/kg	3500	**16000[bcdo]**	**9500[bcdo]**	2600
Barium	ug/kg	4000	49000 J	26000 J	21000 J
Beryllium	ug/kg	180 J	1500	340 J	200 J
Cadmium	ug/kg	140 J	2500	190 J	190 J
Chromium	ug/kg	3200	11000	3900	5100
Cobalt	ug/kg	1600 J	4400 J	3400 J	1900 J
Copper	ug/kg	4300 J	26000	21000	9900
Iron	ug/kg	3100000	**30000000[bc]**	**24000000[bc]**	5600000

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB321-14	SB322-14	SB322-14	SB322-14
Sample Identification		SO-17360-041414-DR-052	SO-17360-041414-DR-059	SO-17360-041414-DR-060	SO-17360-041414-DR-061
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	1900 J	27000 J	15000 J	4900 J
Manganese	ug/kg	57000	99000	34000	100000
Metals (continued)					
Mercury	ug/kg	1.6 J	38 J	15 J	25 J
Molybdenum	ug/kg	320 J	**4400[bc]**	**1600 J[b]**	310 J
Nickel	ug/kg	3800	12000 J	6100 J	4800 J
Selenium	ug/kg	320 J	**2000 J[d]**	**900 J[d]**	**2000[d]**
Silver	ug/kg	79 J	44 J	76 J	14 J
Thallium	ug/kg	160 J	690 J	200 J	1900 U
Vanadium	ug/kg	4700 J	23000	7700	14000
Zinc	ug/kg	6500	83000	6300	9300
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1221 (PCB-1221)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1232 (PCB-1232)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1242 (PCB-1242)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1248 (PCB-1248)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1254 (PCB-1254)	ug/kg	83 U	99 U	93 U	94 U
Aroclor-1260 (PCB-1260)	ug/kg	83 U	99 U	93 U	94 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB322-14	SB322-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-062	SO-17360-041414-DR-063	SO-17360-041414-DR-070	SO-17360-041414-DR-071
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	32 U	42 U	57 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	32 U	42 U	57 U
1,1,2-Trichloroethane	ug/kg	32 U	32 U	42 U	57 U
1,1-Dichloroethane	ug/kg	32 U	32 U	42 U	57 U
1,1-Dichloroethene	ug/kg	32 U	32 U	42 U	57 U
1,2,4-Trichlorobenzene	ug/kg	32 U	32 U	42 U	57 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	32 U	42 U	57 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	32 U	42 U	57 U
1,2-Dichlorobenzene	ug/kg	32 U	32 U	42 U	57 U
1,2-Dichloroethane	ug/kg	32 U	32 U	42 U	57 U
1,2-Dichloropropane	ug/kg	32 U	32 U	42 U	57 U
1,3-Dichlorobenzene	ug/kg	32 U	32 U	42 U	57 U
1,4-Dichlorobenzene	ug/kg	32 U	32 U	42 U	57 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	210 U	280 U	220 J
2-Hexanone	ug/kg	32 U	32 U	42 U	57 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	32 U	42 U	57 U
Acetone	ug/kg	110 U	110 U	140 U	420
Benzene	ug/kg	32 U	32 U	**180[bc]**	**1300[bc]**
Bromodichloromethane	ug/kg	32 U	32 U	42 U	57 U
Bromoform	ug/kg	32 U	32 U	42 U	57 U
Bromomethane (Methyl bromide)	ug/kg	81 U	79 U	100 U	140 U
Carbon disulfide	ug/kg	32 U	47	42 U	57 U
Carbon tetrachloride	ug/kg	32 U	32 U	42 U	57 U
Chlorobenzene	ug/kg	32 U	32 U	42 U	57 U
Chloroethane	ug/kg	110 U	110 U	140 U	190 U
Chloroform (Trichloromethane)	ug/kg	32 U	32 U	42 U	57 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	140 U	190 U
cis-1,2-Dichloroethene	ug/kg	32 U	32 U	42 U	57 U
cis-1,3-Dichloropropene	ug/kg	32 U	32 U	42 U	57 U
Cyclohexane	ug/kg	32 U	32 U	42 U	1600
Dibromochloromethane	ug/kg	32 U	32 U	42 U	57 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	32 U	42 U	57 U
Ethylbenzene	ug/kg	32 U	32 U	160	**1100[d]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB322-14	SB322-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-062	SO-17360-041414-DR-063	SO-17360-041414-DR-070	SO-17360-041414-DR-071
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	32 U	130	880
Methyl acetate	ug/kg	1000	210 U	2200	740
Methyl cyclohexane	ug/kg	32 U	32 U	620	6300
Methyl tert butyl ether (MTBE)	ug/kg	32 U	32 U	42 U	57 U
Methylene chloride	ug/kg	32 U	32 U	42 U	57 U
Styrene	ug/kg	32 U	32 U	42 U	57 U
Tetrachloroethene	ug/kg	32 U	32 U	42 U	57 U
Toluene	ug/kg	32 U	32 U	780	5300 J
trans-1,2-Dichloroethene	ug/kg	32 U	32 U	42 U	57 U
trans-1,3-Dichloropropene	ug/kg	32 U	32 U	42 U	57 U
Trichloroethene	ug/kg	32 U	32 U	42 U	57 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	32 U	42 U	57 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	32 U	42 U	57 U
Vinyl chloride	ug/kg	32 U	32 U	42 U	57 U
Xylenes (total)	ug/kg	97 U	95 U	**1100[d]**	**6500 J[bcd]**
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	7.1 U	6.9 U	7.5 U	77 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB322-14	SB322-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-062	SO-17360-041414-DR-063	SO-17360-041414-DR-070	SO-17360-041414-DR-071
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	7.1 U	6.9 U	7.5 U	7.6 U
Acenaphthylene	ug/kg	7.1 U	6.9 U	50	13
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	7.1 U	6.9 U	51	12
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	18	23	170	44
Benzo(a)pyrene	ug/kg	7.1 U	6.9 U	230	53
Benzo(b)fluoranthene	ug/kg	7.1 U	6.9 U	380	130
Benzo(g,h,i)perylene	ug/kg	7.1 U	6.9 U	170	24 J
Benzo(k)fluoranthene	ug/kg	7.1 U	6.9 U	130	39
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	7.1 U	6.9 U	240	96
Dibenz(a,h)anthracene	ug/kg	7.1 U	6.9 U	66	12
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB322-14	SB322-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-062	SO-17360-041414-DR-063	SO-17360-041414-DR-070	SO-17360-041414-DR-071
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	7.1 U	6.9 U	150	69
Fluorene	ug/kg	7.1 U	6.9 U	7.5 U	7.6 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	7.1 U	6.9 U	200	22
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	7.1 U	6.9 U	7.5 U	57 J
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	32	6.9 U	68	66 J
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	7.1 U	6.9 U	140	64
Metals					
Antimony	ug/kg	77 J	34 J	510 J	1300 J
Arsenic	ug/kg	1400 J	3200	**11000[bcdo]**	**8200[bcdo]**
Barium	ug/kg	20000 J	4900 J	39000 J	32000 J
Beryllium	ug/kg	100 J	54 J	510 J	310 J
Cadmium	ug/kg	30 J	15 J	1200	320 J
Chromium	ug/kg	6100	3700	6300	5300
Cobalt	ug/kg	1500 J	1300 J	3700 J	2400 J
Copper	ug/kg	5600	3400	14000	15000
Iron	ug/kg	5400000	2900000	**47000000[bc]**	**36000000[bc]**

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB322-14	SB322-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-062	SO-17360-041414-DR-063	SO-17360-041414-DR-070	SO-17360-041414-DR-071
Sample Date		4/14/2014	4/14/2014	4/14/2014	4/14/2014
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27	AOI 27
Lead	ug/kg	2100 J	1100 J	13000 J	16000 J
Manganese	ug/kg	26000	48000	40000	46000
Metals (continued)					
Mercury	ug/kg	1.1 J	1.2 J	50	33 J
Molybdenum	ug/kg	510 J	350 J	**3900[b]**	**2000 J[b]**
Nickel	ug/kg	4100 J	3200 J	9400 J	5500 J
Selenium	ug/kg	**620 J[d]**	330 J	**1700 J[d]**	**920 J[d]**
Silver	ug/kg	2000 U	1800 U	18 J	17 J
Thallium	ug/kg	2000 U	1800 U	200 J	170 J
Vanadium	ug/kg	6300	4500	14000	12000
Zinc	ug/kg	9400	5400	26000	4200 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1221 (PCB-1221)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1232 (PCB-1232)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1242 (PCB-1242)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1248 (PCB-1248)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1254 (PCB-1254)	ug/kg	87 U	87 U	92 U	93 U
Aroclor-1260 (PCB-1260)	ug/kg	87 U	87 U	92 U	93 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB323-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-072	SO-17360-041414-DR-073	SO-17360-041414-DR-074
Sample Date		4/14/2014	4/14/2014	4/14/2014
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	34 U	120 U	56 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	120 U	56 U
1,1,2-Trichloroethane	ug/kg	34 U	120 U	56 U
1,1-Dichloroethane	ug/kg	34 U	120 U	56 U
1,1-Dichloroethene	ug/kg	34 U	120 U	56 U
1,2,4-Trichlorobenzene	ug/kg	34 U	120 U	56 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	120 U	56 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	120 U	56 U
1,2-Dichlorobenzene	ug/kg	34 U	120 U	56 U
1,2-Dichloroethane	ug/kg	34 U	120 U	56 U
1,2-Dichloropropane	ug/kg	34 U	120 U	56 U
1,3-Dichlorobenzene	ug/kg	34 U	120 U	56 U
1,4-Dichlorobenzene	ug/kg	34 U	120 U	56 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	790 U	370 U
2-Hexanone	ug/kg	34 U	120 U	56 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	120 U	56 U
Acetone	ug/kg	110 U	400 U	190 U
Benzene	ug/kg	35	120 U	56 U
Bromodichloromethane	ug/kg	34 U	120 U	56 U
Bromoform	ug/kg	34 U	120 U	56 U
Bromomethane (Methyl bromide)	ug/kg	85 U	300 U	140 U
Carbon disulfide	ug/kg	34 U	120 U	56 U
Carbon tetrachloride	ug/kg	34 U	120 U	56 U
Chlorobenzene	ug/kg	34 U	120 U	56 U
Chloroethane	ug/kg	110 U	400 U	190 U
Chloroform (Trichloromethane)	ug/kg	34 U	120 U	56 U
Chloromethane (Methyl chloride)	ug/kg	110 U	400 U	190 U
cis-1,2-Dichloroethene	ug/kg	34 U	120 U	56 U
cis-1,3-Dichloropropene	ug/kg	34 U	120 U	56 U
Cyclohexane	ug/kg	34 U	120 U	56 U
Dibromochloromethane	ug/kg	34 U	120 U	56 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	120 U	56 U
Ethylbenzene	ug/kg	45	120 U	56 U

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB323-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-072	SO-17360-041414-DR-073	SO-17360-041414-DR-074
Sample Date		4/14/2014	4/14/2014	4/14/2014
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27
VOCs (continued)				
Isopropyl benzene	ug/kg	34 U	120 U	56 U
Methyl acetate	ug/kg	960	4200	2000
Methyl cyclohexane	ug/kg	300	120 U	56 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	120 U	56 U
Methylene chloride	ug/kg	34 U	120 U	56 U
Styrene	ug/kg	34 U	120 U	56 U
Tetrachloroethene	ug/kg	34 U	120 U	56 U
Toluene	ug/kg	230	120 U	56 U
trans-1,2-Dichloroethene	ug/kg	34 U	120 U	56 U
trans-1,3-Dichloropropene	ug/kg	34 U	120 U	56 U
Trichloroethene	ug/kg	34 U	120 U	56 U
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	120 U	56 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	120 U	56 U
Vinyl chloride	ug/kg	34 U	120 U	56 U
Xylenes (total)	ug/kg	330	360 U	170 U
Semi-Volatile Organic Compounds (SVOCs)				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--
2-Chlorophenol	ug/kg	--	--	--
2-Methylnaphthalene	ug/kg	7.3 U	18 U	9.9 U
2-Methylphenol	ug/kg	--	--	--
2-Nitroaniline	ug/kg	--	--	--
2-Nitrophenol	ug/kg	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB323-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-072	SO-17360-041414-DR-073	SO-17360-041414-DR-074
Sample Date		4/14/2014	4/14/2014	4/14/2014
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27
3,3'-Dichlorobenzidine	ug/kg	--	--	--
SVOCs (continued)				
3-Nitroaniline	ug/kg	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--
4-Chloroaniline	ug/kg	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--
4-Methylphenol	ug/kg	--	--	--
4-Nitroaniline	ug/kg	--	--	--
4-Nitrophenol	ug/kg	--	--	--
Acenaphthene	ug/kg	7.3 U	18 U	9.9 U
Acenaphthylene	ug/kg	7.3 U	18 U	9.9 U
Acetophenone	ug/kg	--	--	--
Anthracene	ug/kg	7.3 U	18 U	9.9 U
Atrazine	ug/kg	--	--	--
Benzaldehyde	ug/kg	--	--	--
Benzo(a)anthracene	ug/kg	7.3 U	18 U	9.9 U
Benzo(a)pyrene	ug/kg	7.3 U	18 U	9.9 U
Benzo(b)fluoranthene	ug/kg	7.3 U	18 U	9.9 U
Benzo(g,h,i)perylene	ug/kg	7.3 U	18 U	9.9 U
Benzo(k)fluoranthene	ug/kg	7.3 U	18 U	9.9 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--
Caprolactam	ug/kg	--	--	--
Carbazole	ug/kg	--	--	--
Chrysene	ug/kg	7.3 U	18 U	9.9 U
Dibenz(a,h)anthracene	ug/kg	7.3 U	18 U	9.9 U
Dibenzofuran	ug/kg	--	--	--
Diethyl phthalate	ug/kg	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB323-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-072	SO-17360-041414-DR-073	SO-17360-041414-DR-074
Sample Date		4/14/2014	4/14/2014	4/14/2014
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27
Dimethyl phthalate	ug/kg	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--
SVOCs (continued)				
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--
Fluoranthene	ug/kg	7.3 U	18 U	9.9 U
Fluorene	ug/kg	7.3 U	18 U	9.9 U
Hexachlorobenzene	ug/kg	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--
Hexachloroethane	ug/kg	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	7.3 U	18 U	9.9 U
Isophorone	ug/kg	--	--	--
Naphthalene	ug/kg	7.3 U	18 U	9.9 U
Nitrobenzene	ug/kg	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--
Pentachlorophenol	ug/kg	--	--	--
Phenanthrene	ug/kg	7.3 U	18 U	9.9 U
Phenol	ug/kg	--	--	--
Pyrene	ug/kg	7.3 U	18 U	9.9 U
Metals				
Antimony	ug/kg	660 J	460 J	130 J
Arsenic	ug/kg	**6500[bcd]**	**7000[bcd]**	2400
Barium	ug/kg	29000 J	190000 J	29000 J
Beryllium	ug/kg	1300	110 J	130 J
Cadmium	ug/kg	440 J	310 J	140 J
Chromium	ug/kg	9700	4300 J	7000
Cobalt	ug/kg	**11000 J[bcd]**	1400 J	2400 J
Copper	ug/kg	25000	8000	10000
Iron	ug/kg	**20000000[bc]**	9100000	4700000

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB323-14	SB323-14	SB323-14
Sample Identification		SO-17360-041414-DR-072	SO-17360-041414-DR-073	SO-17360-041414-DR-074
Sample Date		4/14/2014	4/14/2014	4/14/2014
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27	AOI 27	AOI 27
Lead	ug/kg	14000 J	1100 J	2700 J
Manganese	ug/kg	**460000[bcd]**	96000	46000
Metals (continued)				
Mercury	ug/kg	9.8 J	5.8 J	4.2 J
Molybdenum	ug/kg	1200 J	**5300 J[bc]**	880 J
Nickel	ug/kg	34000 J	6400 J	7400 J
Selenium	ug/kg	**2100[d]**	**2900 J[d]**	**1100 J[d]**
Silver	ug/kg	110 J	22 J	12 J
Thallium	ug/kg	310 J	170 J	64 J
Vanadium	ug/kg	13000	11000	12000
Zinc	ug/kg	49000	14000	15000
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	90 U	220 U	130 U
Aroclor-1221 (PCB-1221)	ug/kg	90 U	220 U	130 U
Aroclor-1232 (PCB-1232)	ug/kg	90 U	220 U	130 U
Aroclor-1242 (PCB-1242)	ug/kg	90 U	220 U	130 U
Aroclor-1248 (PCB-1248)	ug/kg	90 U	220 U	130 U
Aroclor-1254 (PCB-1254)	ug/kg	90 U	220 U	130 U
Aroclor-1260 (PCB-1260)	ug/kg	90 U	220 U	130 U
Total PCBs	ug/kg	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB19-05	SB19-05	SB19-05	SB19-05
Sample Identification		SO-17360-121205-DCR-612	SO-17360-121205-DCR-613	SO-17360-121205-DCR-614	SO-17360-121205-DCR-615
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type			Duplicate		
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	11 J	13 J	470 J	280 UJ
Acenaphthene	ug/kg	280 UJ	280 U	370 J	280 UJ
Acenaphthylene	ug/kg	280 UJ	280 U	2900 U	280 UJ
Anthracene	ug/kg	23 J	23 J	750 J	280 UJ
Benzo(a)anthracene	ug/kg	160 J	130 J	2000 J	280 UJ
Benzo(a)pyrene	ug/kg	180 J	130 J	1900 J	280 UJ
Benzo(b)fluoranthene	ug/kg	230 J	200 J	2400 J	280 UJ
Benzo(g,h,i)perylene	ug/kg	140 J	95 J	1400 J	280 UJ
Benzo(k)fluoranthene	ug/kg	70 J	71 J	1100 J	280 UJ
Chrysene	ug/kg	170 J	130 J	2200 J	280 UJ
Dibenz(a,h)anthracene	ug/kg	37 J	26 J	340 J	280 UJ
Fluoranthene	ug/kg	250 J	210 J	4200	9.0 J
Fluorene	ug/kg	280 UJ	7.3 J	430 J	280 UJ
Indeno(1,2,3-cd)pyrene	ug/kg	120 J	84 J	1200 J	280 UJ
Naphthalene	ug/kg	7.5 J	11 J	510 J	280 UJ
Phenanthrene	ug/kg	98 J	90 J	**3100[d]**	280 UJ
Pyrene	ug/kg	210 J	180 J	3200	280 UJ
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	2300	2200	5400	1200
Barium	ug/kg	17800	13700	91100	7400
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	210	160	2300	86 U
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	**26000[d]**	12100	**341000[bcdmn]**	4800
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB19-05	SB19-05	SB19-05	SB19-05
Sample Identification		SO-17360-121205-DCR-612	SO-17360-121205-DCR-613	SO-17360-121205-DCR-614	SO-17360-121205-DCR-615
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type			Duplicate		
Sample Depth		(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	8600	6800	75200	1800
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	16 J	22 J	17 J	43 U
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	430 U	430 U	**600[d]**	430 U
Silver	ug/kg	430 U	430 U	**3000[d]**	430 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB19-05	SB19-05	SB20-05	SB20-05
Sample Identification		SO-17360-121205-DCR-616	SO-17360-121205-DCR-617	SO-17360-121205-DCR-607	SO-17360-121205-DCR-608
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	280 U	290 U	1500 J	710 J
Acenaphthene	ug/kg	280 U	290 U	2300 J	1300 J
Acenaphthylene	ug/kg	280 U	290 U	2100 J	5700 U
Anthracene	ug/kg	280 U	290 U	9000 J	2900 J
Benzo(a)anthracene	ug/kg	280 U	290 U	**29000[o]**	8800
Benzo(a)pyrene	ug/kg	280 U	290 U	**28000[op]**	**8400[op]**
Benzo(b)fluoranthene	ug/kg	280 U	290 U	**38000[o]**	12000
Benzo(g,h,i)perylene	ug/kg	280 U	290 U	21000	6300
Benzo(k)fluoranthene	ug/kg	280 U	290 U	14000 J	4400 J
Chrysene	ug/kg	280 U	290 U	32000	12000
Dibenz(a,h)anthracene	ug/kg	280 U	290 U	**6200 J[o]**	1900 J
Fluoranthene	ug/kg	280 U	290 U	**49000[d]**	**17000[d]**
Fluorene	ug/kg	280 U	290 U	3500 J	1500 J
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	290 U	17000	5200 J
Naphthalene	ug/kg	280 U	290 U	**2600 J[d]**	**910 J[d]**
Phenanthrene	ug/kg	280 U	290 U	**30000[d]**	**14000[d]**
Pyrene	ug/kg	280 U	290 U	39000	14000
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	1000	680	**18500[bcdo]**	4300
Barium	ug/kg	3700	5000	608000	287000
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	85 U	34 J	4500	390
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	4200	3800	**577000[bcdmn]**	**49100[bcd]**
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB19-05	SB19-05	SB20-05	SB20-05
Sample Identification		SO-17360-121205-DCR-616	SO-17360-121205-DCR-617	SO-17360-121205-DCR-607	SO-17360-121205-DCR-608
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	1900	1900	**575000[o]**	46000
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	42 U	24 J	**180[d]**	44
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	420 U	450 U	**1700[d]**	360 J
Silver	ug/kg	420 U	450 U	**1500[d]**	430 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB20-05	SB20-05	SB20-05	SB21-05
Sample Identification		SO-17360-121205-DCR-609	SO-17360-121205-DCR-610	SO-17360-121205-DCR-611	SO-17360-121205-DCR-602
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	14000 U	16000 U	5700 U	130 J
Acenaphthene	ug/kg	14000 U	16000 U	5700 U	180 J
Acenaphthylene	ug/kg	14000 U	16000 U	5700 U	26 J
Anthracene	ug/kg	14000 U	16000 U	5700 U	570 J
Benzo(a)anthracene	ug/kg	14000 U	16000 U	5700 U	2100 J
Benzo(a)pyrene	ug/kg	14000 U	16000 U	5700 U	2000 J
Benzo(b)fluoranthene	ug/kg	14000 U	16000 U	5700 U	3000 J
Benzo(g,h,i)perylene	ug/kg	14000 U	16000 U	5700 U	1300 J
Benzo(k)fluoranthene	ug/kg	14000 U	16000 U	5700 U	820 J
Chrysene	ug/kg	14000 U	16000 U	5700 U	2600 J
Dibenz(a,h)anthracene	ug/kg	14000 U	16000 U	5700 U	430 J
Fluoranthene	ug/kg	14000 U	16000 U	5700 U	3100 J
Fluorene	ug/kg	14000 U	16000 U	5700 U	260 J
Indeno(1,2,3-cd)pyrene	ug/kg	14000 U	16000 U	5700 U	1100 J
Naphthalene	ug/kg	14000 U	16000 U	5700 U	92 J
Phenanthrene	ug/kg	14000 U	16000 U	5700 U	**2200 J[d]**
Pyrene	ug/kg	14000 U	16000 U	5700 U	2600 J
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	**22400[bcdo]**	1200	730	5300
Barium	ug/kg	21600	13400	4700	66400
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	770 J	58 J	86 U	560
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	**184000[bcd]**	8600	5900	**24500[d]**
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB20-05	SB20-05	SB20-05	SB21-05
Sample Identification		SO-17360-121205-DCR-609	SO-17360-121205-DCR-610	SO-17360-121205-DCR-611	SO-17360-121205-DCR-602
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	24000	4700	3200	39600
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	44 U	47 U	43 U	33 J
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	4400 U	470 U	430 U	**480[d]**
Silver	ug/kg	4400 U	470 U	430 U	430 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB21-05	SB21-05	SB21-05	SB21-05
Sample Identification		SO-17360-121205-DCR-603	SO-17360-121205-DCR-604	SO-17360-121205-DCR-605	SO-17360-121205-DCR-606
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	11000 U	78 J	350 U	290 U
Acenaphthene	ug/kg	1900 J	180 J	43 J	290 U
Acenaphthylene	ug/kg	11000 U	17 J	350 U	290 U
Anthracene	ug/kg	5200 J	540	120 J	290 U
Benzo(a)anthracene	ug/kg	17000	1900	430	12 J
Benzo(a)pyrene	ug/kg	**17000[op]**	1700	320 J	12 J
Benzo(b)fluoranthene	ug/kg	**24000[o]**	3000	520	15 J
Benzo(g,h,i)perylene	ug/kg	12000	1300	250 J	290 U
Benzo(k)fluoranthene	ug/kg	8900 J	1000	120 J	290 U
Chrysene	ug/kg	21000	2600	490	13 J
Dibenz(a,h)anthracene	ug/kg	**3400 J[o]**	490	350 U	290 U
Fluoranthene	ug/kg	**37000[d]**	3200	810	24 J
Fluorene	ug/kg	2200 J	230 J	47 J	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	10000 J	1200	210 J	290 U
Naphthalene	ug/kg	11000 U	270 J	350 U	290 U
Phenanthrene	ug/kg	**23000[d]**	**2400[d]**	630	20 J
Pyrene	ug/kg	29000	2500	640	19 J
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	2600	**23700[bcdo]**	5800	1200
Barium	ug/kg	81300	472000	175000	14500
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	410	**7800[bcd]**	2500	87 U
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	**21400[d]**	**2800000[bcdmno]**	**768000[bcdmn]**	8400
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB21-05**	**SB21-05**	**SB21-05**	**SB21-05**
Sample Identification		**SO-17360-121205-DCR-603**	**SO-17360-121205-DCR-604**	**SO-17360-121205-DCR-605**	**SO-17360-121205-DCR-606**
Sample Date		**12/12/2005**	**12/12/2005**	**12/12/2005**	**12/12/2005**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	235000	**5410000[bcop]**	371000	4000
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	28 J	15 J	24 J	43 U
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	430 U	4500 U	**770[d]**	430 U
Silver	ug/kg	430 U	**15300[bcd]**	**5200[bd]**	430 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB22-05	SB22-05	SB22-05	SB22-05
Sample Identification		SO-17360-121205-DCR-597	SO-17360-121205-DCR-598	SO-17360-121205-DCR-599	SO-17360-121205-DCR-600
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	86 J	79 J	1400 U	1400 U
Acenaphthene	ug/kg	280 U	300 U	1400 U	1400 U
Acenaphthylene	ug/kg	10 J	300 U	1400 U	1400 U
Anthracene	ug/kg	9.9 J	9.8 J	1400 U	1400 U
Benzo(a)anthracene	ug/kg	47 J	47 J	1400 U	1400 U
Benzo(a)pyrene	ug/kg	49 J	45 J	1400 U	1400 U
Benzo(b)fluoranthene	ug/kg	87 J	81 J	1400 U	1400 U
Benzo(g,h,i)perylene	ug/kg	46 J	45 J	1400 U	1400 U
Benzo(k)fluoranthene	ug/kg	22 J	22 J	1400 U	1400 U
Chrysene	ug/kg	80 J	79 J	1400 U	1400 U
Dibenz(a,h)anthracene	ug/kg	13 J	13 J	1400 U	1400 U
Fluoranthene	ug/kg	78 J	82 J	1400 U	1400 U
Fluorene	ug/kg	280 U	300 U	1400 U	1400 U
Indeno(1,2,3-cd)pyrene	ug/kg	33 J	32 J	1400 U	1400 U
Naphthalene	ug/kg	42 J	36 J	1400 U	1400 U
Phenanthrene	ug/kg	100 J	100 J	1400 U	1400 U
Pyrene	ug/kg	65 J	67 J	1400 U	1400 U
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	2900	3200	720	1800
Barium	ug/kg	88000	64800	8100	9400
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	580	370	86 U	87 U
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	15100	13200	3900	9200
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB22-05	SB22-05	SB22-05	SB22-05
Sample Identification		SO-17360-121205-DCR-597	SO-17360-121205-DCR-598	SO-17360-121205-DCR-599	SO-17360-121205-DCR-600
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	24800	17500	2900	3000
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	43 U	46 U	43 U	44 U
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	430 U	460 U	430 U	440 U
Silver	ug/kg	430 U	460 U	430 U	440 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB22-05	SB23-05	SB23-05	SB23-05
Sample Identification		SO-17360-121205-DCR-601	SO-17360-121205-DCR-594	SO-17360-121205-DCR-595	SO-17360-121205-DCR-596
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(4-6) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	290 U	25 J	280 U	280 U
Acenaphthene	ug/kg	290 U	280 U	280 U	280 U
Acenaphthylene	ug/kg	290 U	280 U	280 U	280 U
Anthracene	ug/kg	290 U	280 U	280 U	280 U
Benzo(a)anthracene	ug/kg	290 U	21 J	280 U	280 U
Benzo(a)pyrene	ug/kg	290 U	25 J	280 U	280 U
Benzo(b)fluoranthene	ug/kg	290 U	40 J	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	290 U	20 J	280 U	280 U
Benzo(k)fluoranthene	ug/kg	290 U	15 J	280 U	280 U
Chrysene	ug/kg	290 U	36 J	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	290 U	280 U	280 U	280 U
Fluoranthene	ug/kg	290 U	40 J	280 U	280 U
Fluorene	ug/kg	290 U	280 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	290 U	15 J	280 U	280 U
Naphthalene	ug/kg	290 U	13 J	280 U	280 U
Phenanthrene	ug/kg	290 U	37 J	280 U	280 U
Pyrene	ug/kg	290 U	35 J	280 U	280 U
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	840	1500	1000	420 U
Barium	ug/kg	7500	33600	5700	3200
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	37 J	130	85 U	84 U
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	6200	6300	5800	3000
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB22-05**	**SB23-05**	**SB23-05**	**SB23-05**
Sample Identification		**SO-17360-121205-DCR-601**	**SO-17360-121205-DCR-594**	**SO-17360-121205-DCR-595**	**SO-17360-121205-DCR-596**
Sample Date		**12/12/2005**	**12/12/2005**	**12/12/2005**	**12/12/2005**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(4-6) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	2600	7600	2000	1200
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	44 U	42 U	42 U	42 U
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	440 U	420 U	420 U	420 U
Silver	ug/kg	440 U	420 U	420 U	420 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB24-05	SB24-05	SB24-05	SB25-05
Sample Identification		SO-17360-121205-DCR-591	SO-17360-121205-DCR-592	SO-17360-121205-DCR-593	SO-17360-121205-DCR-585
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(0-2) ft BGS	(4-6) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	8.2 J	290 U	280 U	90 J
Acenaphthene	ug/kg	12 J	290 U	280 U	1100 J
Acenaphthylene	ug/kg	280 U	290 U	280 U	3400 U
Anthracene	ug/kg	35 J	290 U	280 U	2500 J
Benzo(a)anthracene	ug/kg	120 J	290 U	280 U	6500
Benzo(a)pyrene	ug/kg	120 J	290 U	280 U	**6000[o]**
Benzo(b)fluoranthene	ug/kg	170 J	290 U	280 U	8600
Benzo(g,h,i)perylene	ug/kg	90 J	290 U	280 U	3900
Benzo(k)fluoranthene	ug/kg	51 J	290 U	280 U	3200 J
Chrysene	ug/kg	130 J	290 U	280 U	7500
Dibenz(a,h)anthracene	ug/kg	22 J	290 U	280 U	1200 J
Fluoranthene	ug/kg	280	290 U	280 U	**16000[d]**
Fluorene	ug/kg	9.4 J	290 U	280 U	940 J
Indeno(1,2,3-cd)pyrene	ug/kg	77 J	290 U	280 U	3700
Naphthalene	ug/kg	280 U	290 U	280 U	170 J
Phenanthrene	ug/kg	120 J	290 U	280 U	**10000[d]**
Pyrene	ug/kg	210 J	290 U	280 U	12000
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	1900	900	530	640
Barium	ug/kg	13700	6500	4600	19700
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	69 J	86 U	85 U	51 J
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	7400	4800	3300	14400
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB24-05	SB24-05	SB24-05	SB25-05
Sample Identification		SO-17360-121205-DCR-591	SO-17360-121205-DCR-592	SO-17360-121205-DCR-593	SO-17360-121205-DCR-585
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					
Sample Depth		(0-2) ft BGS	(4-6) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	5200	1600	990	50900
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	42 U	43 U	43 U	41 U
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	420 U	430 U	430 U	410 U
Silver	ug/kg	420 U	430 U	430 U	410 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB25-05	SB25-05	SB25-05	SB25-05
Sample Identification		SO-17360-121205-DCR-586	SO-17360-121205-DCR-587	SO-17360-121205-DCR-588	SO-17360-121205-DCR-589
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					Duplicate
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	35 J	280 U	280 U	280 U
Acenaphthene	ug/kg	300 U	280 U	280 U	280 U
Acenaphthylene	ug/kg	300 U	280 U	280 U	280 U
Anthracene	ug/kg	52 J	8.2 J	280 U	7.6 J
Benzo(a)anthracene	ug/kg	440	31 J	21 J	32 J
Benzo(a)pyrene	ug/kg	510	25 J	15 J	26 J
Benzo(b)fluoranthene	ug/kg	1200	45 J	26 J	38 J
Benzo(g,h,i)perylene	ug/kg	860	21 J	11 J	17 J
Benzo(k)fluoranthene	ug/kg	330	15 J	9.2 J	18 J
Chrysene	ug/kg	690	37 J	24 J	33 J
Dibenz(a,h)anthracene	ug/kg	300	280 U	280 U	280 U
Fluoranthene	ug/kg	790	67 J	46 J	68 J
Fluorene	ug/kg	22 J	280 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	630	17 J	9.5 J	16 J
Naphthalene	ug/kg	89 J	280 U	280 U	280 U
Phenanthrene	ug/kg	680	41 J	33 J	44 J
Pyrene	ug/kg	530	47 J	34 J	47 J
Metals					
Aluminum	ug/kg	--	--	--	--
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	**29400**[bcdo]	1100	1600	1200
Barium	ug/kg	559000	14800	6400	4300
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	**38100**[bcd]	100	57 J	84 U
Calcium	ug/kg	--	--	--	--
Chromium	ug/kg	**4970000**[bcdmno]	**46300**[bcd]	12000	11100
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB25-05	SB25-05	SB25-05	SB25-05
Sample Identification		SO-17360-121205-DCR-586	SO-17360-121205-DCR-587	SO-17360-121205-DCR-588	SO-17360-121205-DCR-589
Sample Date		12/12/2005	12/12/2005	12/12/2005	12/12/2005
Sample Type					Duplicate
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	**3710000**[bcop]	18500	10300	4600
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--
Mercury	ug/kg	45 U	43 U	42 U	17 J
Nickel	ug/kg	--	--	--	--
Potassium	ug/kg	--	--	--	--
Selenium	ug/kg	9100 U	430 U	420 U	420 U
Silver	ug/kg	**31100**[bcd]	430 U	420 U	420 U
Sodium	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB25-05	SB26-07	SB26-07	SB26-07
Sample Identification		SO-17360-121205-DCR-590	SO-17360-071007-BW-618	SO-17360-071007-BW-619	SO-17360-071007-BW-620
Sample Date		12/12/2005	7/10/2007	7/10/2007	7/10/2007
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	280 U	7600 U	8300 U	8600 U
Acenaphthene	ug/kg	280 U	7600 U	8300 U	8600 U
Acenaphthylene	ug/kg	280 U	7600 U	8300 U	8600 U
Anthracene	ug/kg	280 U	7600 U	8300 U	8600 U
Benzo(a)anthracene	ug/kg	13 J	7600 U	8300 U	8600 U
Benzo(a)pyrene	ug/kg	9.9 J	7600 U	8300 U	8600 U
Benzo(b)fluoranthene	ug/kg	15 J	7600 U	8300 U	8600 U
Benzo(g,h,i)perylene	ug/kg	7.2 J	7600 U	8300 U	8600 U
Benzo(k)fluoranthene	ug/kg	280 U	7600 U	8300 U	8600 U
Chrysene	ug/kg	14 J	7600 U	8300 U	8600 U
Dibenz(a,h)anthracene	ug/kg	280 U	7600 U	8300 U	8600 U
Fluoranthene	ug/kg	26 J	7600 U	8300 U	8600 U
Fluorene	ug/kg	280 U	7600 U	8300 U	8600 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	7600 U	8300 U	8600 U
Naphthalene	ug/kg	280 U	7600 U	8300 U	8600 U
Phenanthrene	ug/kg	16 J	7600 U	8300 U	8600 U
Pyrene	ug/kg	19 J	7600 U	8300 U	8600 U
Metals					
Aluminum	ug/kg	--	2670000	**9260000[bc]**	3690000
Antimony	ug/kg	--	**17400 J[bc]**	**34800 J[bc]**	R
Arsenic	ug/kg	800	**13100 J[bcdo]**	**18200 J[bcdo]**	4100 J
Barium	ug/kg	6600	414000 J	**2230000 J[bcd]**	27400 J
Beryllium	ug/kg	--	180 U	200 U	210 U
Cadmium	ug/kg	37 J	4900 J	**54000 J[bcd]**	480 J
Calcium	ug/kg	--	6910000 J	16000000 J	3960000 J
Chromium	ug/kg	9300	**270000 J[bcdmn]**	**2380000 J[bcdmn]**	12300 J
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB25-05**	**SB26-07**	**SB26-07**	**SB26-07**
Sample Identification		**SO-17360-121205-DCR-590**	**SO-17360-071007-BW-618**	**SO-17360-071007-BW-619**	**SO-17360-071007-BW-620**
Sample Date		**12/12/2005**	**7/10/2007**	**7/10/2007**	**7/10/2007**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	--	**27600 J[bcd]**	**118000 J[bcd]**	2200 J
Copper	ug/kg	--	**985000[d]**	**4410000[d]**	21200
Iron	ug/kg	--	**109000000[bc]**	**276000000[bco]**	6580000
Lead	ug/kg	5600	**904000[bcop]**	**3420000[bcop]**	25800
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	--	2870000 J	4330000 J	657000 J
Manganese	ug/kg	--	**1120000[bcd]**	**3280000[bcdn]**	96200
Mercury	ug/kg	20 J	46 U	50 U	52 U
Nickel	ug/kg	--	**255000 J[bcd]**	**1780000 J[bcd]**	26600 J
Potassium	ug/kg	--	458000 U	1260000	523000 U
Selenium	ug/kg	430 U	**520 J[d]**	**970 J[d]**	400 J
Silver	ug/kg	430 U	**7000 J[bd]**	**14300 J[bcd]**	170 J
Sodium	ug/kg	--	524000	2160000	1260000
Thallium	ug/kg	--	92 U	120	100 U
Vanadium	ug/kg	--	26200 J	**94600 J[b]**	9500 J
Zinc	ug/kg	--	**4090000[bd]**	**5040000[bcd]**	112000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB26-07	SB26-07	SB27-07	SB27-07	SB27-07
Sample Identification		SO-17360-071007-BW-621	SO-17360-071007-BW-622	SO-17360-071007-BW-623	SO-17360-071007-BW-624	SO-17360-071007-BW-625
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Acenaphthene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Acenaphthylene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Anthracene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Benzo(a)anthracene	ug/kg	300 U	290 U	12000	330	20000 U
Benzo(a)pyrene	ug/kg	300 U	290 U	**25000^{op}**	310 U	20000 U
Benzo(b)fluoranthene	ug/kg	300 U	290 U	**35000°**	670	20000 U
Benzo(g,h,i)perylene	ug/kg	300 U	290 U	24000	460	20000 U
Benzo(k)fluoranthene	ug/kg	300 U	290 U	14000	310 U	20000 U
Chrysene	ug/kg	300 U	290 U	15000	580	20000 U
Dibenz(a,h)anthracene	ug/kg	300 U	290 U	**6400°**	310 U	20000 U
Fluoranthene	ug/kg	300 U	290 U	**13000^{d}**	740	20000 U
Fluorene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Indeno(1,2,3-cd)pyrene	ug/kg	300 U	290 U	**21000°**	320	20000 U
Naphthalene	ug/kg	300 U	290 U	6300 U	310 U	20000 U
Phenanthrene	ug/kg	300 U	290 U	6300 U	580	20000 U
Pyrene	ug/kg	300 U	290 U	13000	360	20000 U
Metals						
Aluminum	ug/kg	2570000	2550000	3150000	4060000	2920000
Antimony	ug/kg	R	R	**4700 J^{bc}**	**29600 J^{bc}**	R
Arsenic	ug/kg	**11900 J^{bcdo}**	1800 J	**10300 J^{bcdo}**	**14500 J^{bcdo}**	**50300 J^{bcdop}**
Barium	ug/kg	23700 J	10400 J	745000 J	**1050000 J^{d}**	89800 J
Beryllium	ug/kg	180 U	170 U	190 U	190 U	440
Cadmium	ug/kg	R	R	5800 J	**28300 J^{bcd}**	280 J
Calcium	ug/kg	669000 J	709000 J	18500000 J	36200000 J	18100000 J
Chromium	ug/kg	8500 J	11500 J	**424000 J^{bcdmn}**	**13200000^{bcdmnop}**	14600 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB26-07	SB26-07	SB27-07	SB27-07	SB27-07
Sample Identification		SO-17360-071007-BW-621	SO-17360-071007-BW-622	SO-17360-071007-BW-623	SO-17360-071007-BW-624	SO-17360-071007-BW-625
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	2400 J	2600 J	**47200 J[bcd]**	**146000 J[bcd]**	4800 J
Copper	ug/kg	4100	6000	**1790000[d]**	**2480000[d]**	34400
Iron	ug/kg	**14600000[bc]**	5460000	**186000000[bco]**	**278000000[bco]**	4950000
Lead	ug/kg	3700	2500	**1630000[bcop]**	**5830000[bcop]**	42200
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	767000 J	928000 J	5010000 J	3090000 J	3630000 J
Manganese	ug/kg	220000	36600	**3140000[bcdn]**	**7180000[bcdmn]**	97500
Mercury	ug/kg	45 U	43 U	48 U	47 U	60 U
Nickel	ug/kg	5600 J	6300 J	**449000 J[bcd]**	**6710000[bcd]**	29100 J
Potassium	ug/kg	450000 U	434000 U	477000 U	666000	599000 U
Selenium	ug/kg	180 UJ	170 UJ	**440 J[d]**	**780 J[d]**	**3500 J[d]**
Silver	ug/kg	90 UJ	87 UJ	**5500 J[bd]**	**13500 J[bcd]**	140 J
Sodium	ug/kg	383000	414000	2450000	2220000	1770000
Thallium	ug/kg	90 U	87 U	110	140	610
Vanadium	ug/kg	13300 J	8400 J	22000 J	55700 J	11400 J
Zinc	ug/kg	6600	10300	**2990000[bd]**	**7520000[bcd]**	82100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB27-07	SB27-07	SB28-07	SB28-07	SB28-07
Sample Identification		SO-17360-071007-BW-626	SO-17360-071007-BW-627	SO-17360-071007-BW-628	SO-17360-071007-BW-629	SO-17360-071007-BW-630
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Acenaphthene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Acenaphthylene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Anthracene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Benzo(a)anthracene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Benzo(a)pyrene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Benzo(b)fluoranthene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Benzo(g,h,i)perylene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Benzo(k)fluoranthene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Chrysene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Dibenz(a,h)anthracene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Fluoranthene	ug/kg	17000 U	8000 U	550	6000 U	15000 U
Fluorene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Indeno(1,2,3-cd)pyrene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Naphthalene	ug/kg	17000 U	8000 U	290 U	6000 U	15000 U
Phenanthrene	ug/kg	17000 U	8000 U	450	6000 U	15000 U
Pyrene	ug/kg	17000 U	8000 U	350	6000 U	15000 U
Metals						
Aluminum	ug/kg	2720000	2780000	4220000	**7860000[bc]**	3080000
Antimony	ug/kg	R	R	R	R	4200 J
Arsenic	ug/kg	3000 J	770 J	3500 J	3100 J	**31900 J[bcdo]**
Barium	ug/kg	21700 J	7600 J	48400 J	76200 J	476000 J
Beryllium	ug/kg	210 U	190 U	590	2200	180 U
Cadmium	ug/kg	R	R	R	R	**7600 J[bcd]**
Calcium	ug/kg	3920000 J	943000 J	3690000 J	9770000 J	13500000 J
Chromium	ug/kg	4400 J	8600 J	6800 J	6600 J	**1460000 J[bcdmn]**
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB27-07	SB27-07	SB28-07	SB28-07	SB28-07
Sample Identification		SO-17360-071007-BW-626	SO-17360-071007-BW-627	SO-17360-071007-BW-628	SO-17360-071007-BW-629	SO-17360-071007-BW-630
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	640 J	2600 J	4500 J	**7800 J[bcd]**	**35400 J[bcd]**
Copper	ug/kg	3100	2800	118000	55000	**838000[d]**
Iron	ug/kg	2480000	3800000	3280000	6800000	**96000000[bc]**
Lead	ug/kg	4200	3100	16500	3600	**1170000[bcop]**
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	404000 J	1210000 J	234000 J	407000 J	2300000 J
Manganese	ug/kg	22500	34700	63100	114000	**1580000[bcdn]**
Mercury	ug/kg	51 U	49 U	44 U	46 U	45 U
Nickel	ug/kg	2700 J	6000 J	8300 J	14200 J	**566000 J[bcd]**
Potassium	ug/kg	515000 U	486000 U	445000 U	457000 U	446000 U
Selenium	ug/kg	**820 J[d]**	330 J	230 J	270 J	**680 J[d]**
Silver	ug/kg	100 UJ	97 UJ	320 J	91 UJ	**2400 J[d]**
Sodium	ug/kg	1620000	448000	755000	1260000	1460000
Thallium	ug/kg	100 U	97 U	89 U	91 U	210
Vanadium	ug/kg	8400 J	10200 J	7600 J	13300 J	**79000 J[b]**
Zinc	ug/kg	4200	8600	38600	7400	**792000[d]**
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB28-07	SB28-07	SB29-07	SB29-07	SB29-07
Sample Identification		SO-17360-071007-BW-631	SO-17360-071007-BW-632	SO-17360-071007-BW-633	SO-17360-071007-BW-634	SO-17360-071007-BW-635
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	280 U	280 U	270 U	280 U
Acenaphthene	ug/kg	280 U	280 U	280 U	270 U	280 U
Acenaphthylene	ug/kg	280 U	280 U	280 U	270 U	280 U
Anthracene	ug/kg	280 U	280 U	280 U	270 U	280 U
Benzo(a)anthracene	ug/kg	280 U	280 U	280 U	270 U	280 U
Benzo(a)pyrene	ug/kg	280 U	280 U	280 U	270 U	280 U
Benzo(b)fluoranthene	ug/kg	280 U	280 U	280 U	270 U	280 U
Benzo(g,h,i)perylene	ug/kg	280 U	280 U	280 U	270 U	280 U
Benzo(k)fluoranthene	ug/kg	280 U	280 U	280 U	270 U	280 U
Chrysene	ug/kg	280 U	280 U	280 U	270 U	280 U
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	280 U	270 U	280 U
Fluoranthene	ug/kg	280 U	280 U	280 U	270 U	280 U
Fluorene	ug/kg	280 U	280 U	280 U	270 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	280 U	280 U	270 U	280 U
Naphthalene	ug/kg	280 U	280 U	280 U	270 U	280 U
Phenanthrene	ug/kg	280 U	280 U	280 U	270 U	280 U
Pyrene	ug/kg	280 U	280 U	280 U	270 U	280 U
Metals						
Aluminum	ug/kg	2570000	2470000	465000	147000	4660000
Antimony	ug/kg	R	R	1300 J	740 J	R
Arsenic	ug/kg	3700 J	1400 J	2500 J	710 J	980 J
Barium	ug/kg	11200 J	12900 J	21900 J	2400 J	25700 J
Beryllium	ug/kg	170 U	170 U	170 U	160 U	170 U
Cadmium	ug/kg	R	R	130 J	94 J	1400 J
Calcium	ug/kg	492000 J	583000 J	647000 J	410000 UJ	430000 UJ
Chromium	ug/kg	6500 J	6100 J	**41000 J[bcd]**	16500 J	6900 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB28-07	SB28-07	SB29-07	SB29-07	SB29-07
Sample Identification		SO-17360-071007-BW-631	SO-17360-071007-BW-632	SO-17360-071007-BW-633	SO-17360-071007-BW-634	SO-17360-071007-BW-635
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	2000 J	1700 J	**7400 J[bcd]**	780 J	1800 J
Copper	ug/kg	3400	3700	19500	5000	2100
Iron	ug/kg	7390000	4370000	11100000	5580000	4840000
Lead	ug/kg	2400	2100	11800	6400	4100
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	863000 J	772000 J	227000 J	82000 UJ	468000 J
Manganese	ug/kg	46700	30000	108000	67600	39000
Mercury	ug/kg	43 U	43 U	42 U	41 U	43 U
Nickel	ug/kg	5300 J	5400 J	21600 J	14400 J	8000 J
Potassium	ug/kg	428000 U	425000 U	418000 U	410000 U	430000 U
Selenium	ug/kg	170 UJ	170 UJ	220 J	160 UJ	170 UJ
Silver	ug/kg	86 UJ	85 UJ	**2900 J[d]**	**2500 J[d]**	**1200 J[d]**
Sodium	ug/kg	242000	211000	704000	245000	809000
Thallium	ug/kg	86 U	85 U	84 U	82 U	86 U
Vanadium	ug/kg	10700 J	7300 J	8500 J	820 UJ	7800 J
Zinc	ug/kg	8200	8300	10600	6400	29900
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB29-07	SB29-07	SB30-07	SB30-07	SB30-07
Sample Identification		SO-17360-071007-BW-636	SO-17360-071007-BW-637	SO-17360-071007-BW-644	SO-17360-071007-BW-645	SO-17360-071007-BW-646
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	280 U	280 U	270 U	270 U
Acenaphthene	ug/kg	280 U	280 U	280 U	270 U	270 U
Acenaphthylene	ug/kg	280 U	280 U	280 U	270 U	270 U
Anthracene	ug/kg	280 U	280 U	280 U	270 U	270 U
Benzo(a)anthracene	ug/kg	280 U	280 U	280 U	270 U	270 U
Benzo(a)pyrene	ug/kg	280 U	280 U	280 U	270 U	270 U
Benzo(b)fluoranthene	ug/kg	280 U	280 U	280 U	270 U	270 U
Benzo(g,h,i)perylene	ug/kg	280 U	280 U	280 U	270 U	270 U
Benzo(k)fluoranthene	ug/kg	280 U	280 U	280 U	270 U	270 U
Chrysene	ug/kg	280 U	280 U	280 U	270 U	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	280 U	270 U	270 U
Fluoranthene	ug/kg	280 U	280 U	280 U	330	270 U
Fluorene	ug/kg	280 U	280 U	280 U	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	280 U	280 U	270 U	270 U
Naphthalene	ug/kg	280 U	280 U	280 U	270 U	270 U
Phenanthrene	ug/kg	280 U	280 U	280 U	270 U	270 U
Pyrene	ug/kg	280 U	280 U	280 U	270 U	270 U
Metals						
Aluminum	ug/kg	2930000	2100000	3060000	1850000	1550000
Antimony	ug/kg	R	R	170 UJ	170 UJ	160 UJ
Arsenic	ug/kg	1000 J	1400 J	1400	1200	1100
Barium	ug/kg	6700 J	5900 J	19700	42600	7900
Beryllium	ug/kg	170 U	170 U	170 U	170 U	160 U
Cadmium	ug/kg	670 J	120 J	83 U	83 U	82 U
Calcium	ug/kg	425000 UJ	419000 UJ	7750000	8620000	7700000
Chromium	ug/kg	6600 J	8000 J	5800 J	6600 J	3800 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB29-07	SB29-07	SB30-07	SB30-07	SB30-07
Sample Identification		SO-17360-071007-BW-636	SO-17360-071007-BW-637	SO-17360-071007-BW-644	SO-17360-071007-BW-645	SO-17360-071007-BW-646
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	2600 J	1800 J	2400	2000	1500
Copper	ug/kg	3500	3400	5400 J	10900 J	3300 J
Iron	ug/kg	8000000	4330000	5270000	3760000	3160000
Lead	ug/kg	2500	1700	9000	9300	3800
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	1160000 J	633000 J	3550000 J	3050000 J	2510000 J
Manganese	ug/kg	51700	33600	141000 J	95000 J	75300 J
Mercury	ug/kg	43 U	42 U	42 U	42 U	41 U
Nickel	ug/kg	3900 J	4400 J	5600	7800	4000
Potassium	ug/kg	425000 U	419000 U	417000 U	416000 U	412000 U
Selenium	ug/kg	170 UJ	170 UJ	170 U	170 U	160 U
Silver	ug/kg	93 J	84 UJ	83 U	83 U	82 U
Sodium	ug/kg	359000	383000	83400 U	83300 U	82400 U
Thallium	ug/kg	85 U	84 U	83 U	83 U	82 U
Vanadium	ug/kg	16700 J	7800 J	7600	5200	5300
Zinc	ug/kg	5000	8200	14800	16700	14300
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB30-07	SB30-07	SB30-07	SB31-07	SB31-07
Sample Identification		SO-17360-071007-BW-647	SO-17360-071007-BW-648	SO-17360-071007-BW-649	SO-17360-071007-BW-656	SO-17360-071007-BW-657
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type				Duplicate		
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Acenaphthene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Acenaphthylene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Anthracene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Benzo(a)anthracene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Benzo(a)pyrene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Benzo(b)fluoranthene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Benzo(g,h,i)perylene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Benzo(k)fluoranthene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Chrysene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Dibenz(a,h)anthracene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Fluoranthene	ug/kg	310	1100 U	270 U	270 U	280 U
Fluorene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Naphthalene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Phenanthrene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Pyrene	ug/kg	270 U	1100 U	270 U	270 U	280 U
Metals						
Aluminum	ug/kg	1450000	1720000	1630000	1750000	2020000
Antimony	ug/kg	170 UJ	170 UJ	170 UJ	170 UJ	170 UJ
Arsenic	ug/kg	870	1600	920	1800	1600
Barium	ug/kg	7800	8900	8200	9200	12300
Beryllium	ug/kg	170 U	170 U	170 U	170 U	170 U
Cadmium	ug/kg	83 U	83 U	83 U	83 U	84 U
Calcium	ug/kg	7150000	6190000	9560000	23000000	27100000
Chromium	ug/kg	3000 J	6100 J	4800 J	4100 J	4600 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB30-07**	**SB30-07**	**SB30-07**	**SB31-07**	**SB31-07**
Sample Identification		**SO-17360-071007-BW-647**	**SO-17360-071007-BW-648**	**SO-17360-071007-BW-649**	**SO-17360-071007-BW-656**	**SO-17360-071007-BW-657**
Sample Date		**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**
Sample Type				**Duplicate**		
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	1400	1700	1600	1800	3500
Copper	ug/kg	3600 J	6900 J	7000 J	4900 J	7100 J
Iron	ug/kg	2950000	3610000	3380000	4240000	4430000
Lead	ug/kg	2800	4800	4400	5700	6600
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	2030000 J	1950000 J	3010000 J	5710000 J	**11500000 J[b]**
Manganese	ug/kg	76900 J	82600 J	76800 J	125000 J	149000 J
Mercury	ug/kg	42 U	41 U	42 U	41 U	42 U
Nickel	ug/kg	3200	11200	10900	3800	4500
Potassium	ug/kg	416000 U	415000 U	416000 U	414000 U	420000 U
Selenium	ug/kg	170 U	170 U	170 U	170 U	170 U
Silver	ug/kg	83 U	110	83 U	83 U	84 U
Sodium	ug/kg	83300 U	82900 U	83300 U	82800 U	84000 U
Thallium	ug/kg	83 U	83 U	83 U	83 U	84 U
Vanadium	ug/kg	4800	4900	4900	6100	6200
Zinc	ug/kg	10700	20400	9500	15600	14200
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB31-07	SB31-07	SB31-07	SB31-07	SB32-07
Sample Identification		SO-17360-071007-BW-658	SO-17360-071007-BW-659	SO-17360-071007-BW-660	SO-17360-071007-BW-661	SO-17360-071007-BW-638
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type					Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	270 U	280 U	280 U	280 U
Acenaphthene	ug/kg	270 U	270 U	280 U	280 U	280 U
Acenaphthylene	ug/kg	270 U	270 U	280 U	280 U	280 U
Anthracene	ug/kg	270 U	270 U	280 U	280 U	280 U
Benzo(a)anthracene	ug/kg	270 U	270 U	280 U	280 U	280 U
Benzo(a)pyrene	ug/kg	270 U	270 U	280 U	280 U	280 U
Benzo(b)fluoranthene	ug/kg	270 U	270 U	280 U	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	270 U	270 U	280 U	280 U	280 U
Benzo(k)fluoranthene	ug/kg	270 U	270 U	280 U	280 U	280 U
Chrysene	ug/kg	270 U	270 U	280 U	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	280 U	280 U	280 U
Fluoranthene	ug/kg	270 U	310	280 U	280 U	280 U
Fluorene	ug/kg	270 U	270 U	280 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U	280 U	280 U	280 U
Naphthalene	ug/kg	270 U	270 U	280 U	280 U	280 U
Phenanthrene	ug/kg	270 U	270 U	280 U	280 U	280 U
Pyrene	ug/kg	270 U	270 U	280 U	280 U	280 U
Metals						
Aluminum	ug/kg	1600000	1390000	2860000	2870000	3150000
Antimony	ug/kg	170 UJ	170 UJ	170 UJ	590 J	170 UJ
Arsenic	ug/kg	2600 J	1300 J	1400 J	2000 J	1700
Barium	ug/kg	9300	7000	27700	33000	49700
Beryllium	ug/kg	170 U	170 U	170 U	170 U	170 U
Cadmium	ug/kg	83 U	83 U	100 J	400 J	960
Calcium	ug/kg	32900000	19600000	35600000	14100000	2610000
Chromium	ug/kg	3900	3800	8400 J	**70900 J[bcd]**	**21500 J[d]**
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB31-07	SB31-07	SB31-07	SB31-07	SB32-07
Sample Identification		SO-17360-071007-BW-658	SO-17360-071007-BW-659	SO-17360-071007-BW-660	SO-17360-071007-BW-661	SO-17360-071007-BW-638
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type					Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	2300	1500	2300 J	**14200 J[bcd]**	3700
Copper	ug/kg	5800	3900	6700 J	49000 J	57500 J
Iron	ug/kg	4100000	3630000	4040000	7820000	8190000
Lead	ug/kg	7100	3700	8400 J	40400 J	65800
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	**15800000 J[b]**	5090000 J	2060000 J	5330000 J	1140000 J
Manganese	ug/kg	127000 J	102000 J	141000 J	239000 J	165000 J
Mercury	ug/kg	41 U	41 U	42 U	42 U	42 U
Nickel	ug/kg	3700	3600	6900 J	44600 J	37100
Potassium	ug/kg	414000 U	413000 U	423000 U	424000 U	421000 U
Selenium	ug/kg	170 U	170 U	170 U	170 U	170 U
Silver	ug/kg	83 U	83 U	85 U	590	170
Sodium	ug/kg	82800 U	82600 U	84700 U	84900 U	280000
Thallium	ug/kg	83 U	83 U	85 U	85 U	84 U
Vanadium	ug/kg	7200	5000	6500	8800	7500
Zinc	ug/kg	14500 J	11800 J	14700 J	61300 J	73000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB32-07	SB32-07	SB32-07	SB32-07	SB32-07
Sample Identification		SO-17360-071007-BW-639	SO-17360-071007-BW-640	SO-17360-071007-BW-641	SO-17360-071007-BW-642	SO-17360-071007-BW-643
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						Duplicate
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	280 U	280 U	280 U	280 U	280 U
Acenaphthene	ug/kg	280 U	280 U	280 U	280 U	280 U
Acenaphthylene	ug/kg	280 U	280 U	280 U	280 U	280 U
Anthracene	ug/kg	280 U	280 U	280 U	280 U	280 U
Benzo(a)anthracene	ug/kg	280 U	280 U	280 U	280 U	280 U
Benzo(a)pyrene	ug/kg	280 U	280 U	280 U	280 U	280 U
Benzo(b)fluoranthene	ug/kg	280 U	280 U	280 U	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	280 U	280 U	280 U	280 U	280 U
Benzo(k)fluoranthene	ug/kg	280 U	280 U	280 U	280 U	280 U
Chrysene	ug/kg	280 U	280 U	280 U	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	280 U	280 U	280 U
Fluoranthene	ug/kg	280 U	280 U	280 U	280 U	280 U
Fluorene	ug/kg	280 U	280 U	280 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	280 U	280 U	280 U	280 U
Naphthalene	ug/kg	280 U	280 U	280 U	280 U	280 U
Phenanthrene	ug/kg	280 U	280 U	280 U	280 U	280 U
Pyrene	ug/kg	280 U	280 U	280 U	280 U	280 U
Metals						
Aluminum	ug/kg	2460000	3250000	3520000	2760000	2200000
Antimony	ug/kg	170 UJ	170 UJ	170 UJ	170 UJ	170 UJ
Arsenic	ug/kg	1100	1400	1000	1000	760
Barium	ug/kg	22000	25800	18000	18500	9600
Beryllium	ug/kg	170 U	170 U	170 U	170 U	170 U
Cadmium	ug/kg	110	170	84 U	85 U	85 U
Calcium	ug/kg	1780000	3230000	1710000	1020000	546000
Chromium	ug/kg	7000 J	9200 J	11400 J	6400 J	5200 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB32-07**	**SB32-07**	**SB32-07**	**SB32-07**	**SB32-07**
Sample Identification		**SO-17360-071007-BW-639**	**SO-17360-071007-BW-640**	**SO-17360-071007-BW-641**	**SO-17360-071007-BW-642**	**SO-17360-071007-BW-643**
Sample Date		**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**
Sample Type						**Duplicate**
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	2000	2500	3000	2000	1900
Copper	ug/kg	11700 J	20500 J	6000 J	5000 J	4200 J
Iron	ug/kg	3810000	5090000	5760000	3900000	3770000
Lead	ug/kg	12300	14500	5700	5400	3900
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	941000 J	1340000 J	1690000 J	788000 J	629000 J
Manganese	ug/kg	81000 J	108000 J	94900 J	68100 J	41700 J
Mercury	ug/kg	42 U	42 U	42 U	42 U	42 U
Nickel	ug/kg	5600	10700	7600	4600	4000
Potassium	ug/kg	418000 U	423000 U	422000 U	423000 U	424000 U
Selenium	ug/kg	170 U	170 U	170 U	170 U	170 U
Silver	ug/kg	84 U	100	84 U	85 U	85 U
Sodium	ug/kg	195000	221000	84500 U	116000	115000
Thallium	ug/kg	84 U	85 U	84 U	85 U	85 U
Vanadium	ug/kg	5900	8000	8500	6700	6700
Zinc	ug/kg	25400	42700	20800	13000	10500
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB33-07	SB33-07	SB33-07	SB33-07	SB33-07
Sample Identification		SO-17360-071007-BW-650	SO-17360-071007-BW-651	SO-17360-071007-BW-652	SO-17360-071007-BW-653	SO-17360-071007-BW-654
Sample Date		7/10/2007	7/10/2007	7/10/2007	7/10/2007	7/10/2007
Sample Type						
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Acenaphthene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Acenaphthylene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Anthracene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Benzo(a)anthracene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Benzo(a)pyrene	ug/kg	270 U	270 U	270 U	R	280 U
Benzo(b)fluoranthene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Benzo(g,h,i)perylene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Benzo(k)fluoranthene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Chrysene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Fluoranthene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Fluorene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Naphthalene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Phenanthrene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Pyrene	ug/kg	270 U	270 U	270 U	1100 U	280 U
Metals						
Aluminum	ug/kg	1590000	1930000	1460000	1770000	2900000
Antimony	ug/kg	160 UJ	160 UJ	160 UJ	170 UJ	170 UJ
Arsenic	ug/kg	1300	1600	1200	2300	1500
Barium	ug/kg	11800	13100	7800	9200	26000
Beryllium	ug/kg	160 U	160 U	160 U	170 U	170 U
Cadmium	ug/kg	82 U	82 U	82 U	85 U	120
Calcium	ug/kg	22400000	24400000	23100000	32500000	6500000 J
Chromium	ug/kg	4300 J	4800 J	3700 J	4500 J	6400 J
Chromium III (trivalent)	ug/kg	--	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB33-07**	**SB33-07**	**SB33-07**	**SB33-07**	**SB33-07**
Sample Identification		**SO-17360-071007-BW-650**	**SO-17360-071007-BW-651**	**SO-17360-071007-BW-652**	**SO-17360-071007-BW-653**	**SO-17360-071007-BW-654**
Sample Date		**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**	**7/10/2007**
Sample Type						
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	3400	2700	2200	2200	2500
Copper	ug/kg	6500 J	6900 J	5100 J	6500 J	10500 J
Iron	ug/kg	4220000	4260000	3620000	4790000	4460000
Lead	ug/kg	6600	6200	5900	5500	17500 J
Lead - coarse fraction	ug/kg	--	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--	--
Magnesium	ug/kg	6230000 J	**8490000 J[b]**	**10700000 J[b]**	**10900000 J[b]**	2570000 J
Manganese	ug/kg	122000 J	128000 J	182000 J	159000 J	121000 J
Mercury	ug/kg	41 U	41 U	41 U	42 U	42 U
Nickel	ug/kg	4400	4600	3900	5500	5900
Potassium	ug/kg	408000 U	411000 U	412000 U	424000 U	419000 U
Selenium	ug/kg	160 U	160 U	160 U	170 U	170 U
Silver	ug/kg	82 U	82 U	82 U	85 U	84 U
Sodium	ug/kg	81600 U	82100 U	82300 U	99100	83800 U
Thallium	ug/kg	82 U	82 U	82 U	85 U	84 U
Vanadium	ug/kg	5300	6200	5600	6100	6800
Zinc	ug/kg	13000	12400	13800	21400	20700
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB33-07	SB34-10	SB34-10	SB34-10
Sample Identification		SO-17360-071007-BW-655	SO-17360-4/20/10-DR-037	SO-17360-4/20/10-DR-038	SO-17360-4/20/10-DR-039
Sample Date		7/10/2007	4/20/2010	4/20/2010	4/20/2010
Sample Type		Duplicate			
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	1400 U	130 J	960 J	310 J
Acenaphthene	ug/kg	1400 U	1100 U	1400 U	1600 U
Acenaphthylene	ug/kg	1400 U	1100 U	1400 U	1600 U
Anthracene	ug/kg	1400 U	62 J	1400 U	1600 U
Benzo(a)anthracene	ug/kg	1400 U	310 J	87 J	1600 U
Benzo(a)pyrene	ug/kg	1400 U	310 J	84 J	1600 U
Benzo(b)fluoranthene	ug/kg	1400 U	500 J	140 J	1600 U
Benzo(g,h,i)perylene	ug/kg	1400 U	260 J	120 J	1600 U
Benzo(k)fluoranthene	ug/kg	1400 U	160 J	47 J	1600 U
Chrysene	ug/kg	1400 U	390 J	170 J	1600 U
Dibenz(a,h)anthracene	ug/kg	1400 U	73 J	1400 U	1600 U
Fluoranthene	ug/kg	1400 U	460 J	130 J	1600 U
Fluorene	ug/kg	1400 U	1100 U	1400 U	1600 U
Indeno(1,2,3-cd)pyrene	ug/kg	1400 U	190 J	59 J	1600 U
Naphthalene	ug/kg	1400 U	76 J	630 J	210 J
Phenanthrene	ug/kg	1400 U	270 J	400 J	120 J
Pyrene	ug/kg	1400 U	380 J	110 J	1600 U
Metals					
Aluminum	ug/kg	2620000	3340000	2720000	3230000
Antimony	ug/kg	170 UJ	170 UJ	170 UJ	190 UJ
Arsenic	ug/kg	2800	3100 J	**5900 J[bcd]**	3400 J
Barium	ug/kg	37600	29700	30000	22500
Beryllium	ug/kg	170 U	170 U	170 U	190 U
Cadmium	ug/kg	84 U	110	120	130
Calcium	ug/kg	523000 J	7130000 J	6520000 J	2470000 J
Chromium	ug/kg	4200 J	6000	6100	4700
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB33-07**	**SB34-10**	**SB34-10**	**SB34-10**
Sample Identification		**SO-17360-071007-BW-655**	**SO-17360-4/20/10-DR-037**	**SO-17360-4/20/10-DR-038**	**SO-17360-4/20/10-DR-039**
Sample Date		**7/10/2007**	**4/20/2010**	**4/20/2010**	**4/20/2010**
Sample Type		**Duplicate**			
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	1700	2900	2300	1100
Copper	ug/kg	4600 J	9100	14500	3000
Iron	ug/kg	3580000	6370000	6120000	2090000
Lead	ug/kg	5600 J	9800	16400	3200
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	417000 J	2080000	3670000	808000
Manganese	ug/kg	74700 J	143000	107000	17300
Mercury	ug/kg	42 U	43 U	43 U	48 U
Nickel	ug/kg	3800	5800 J	5200 J	3200 J
Potassium	ug/kg	419000 U	172000 J	204000 J	126000 J
Selenium	ug/kg	170 U	200 J	310 J	320 J
Silver	ug/kg	84 U	86 U	86 U	66 J
Sodium	ug/kg	83900 U	575000	683000	1250000
Thallium	ug/kg	84 U	86 U	150	96 U
Vanadium	ug/kg	5500	10400	8600	5500
Zinc	ug/kg	21300	15200 J	14100 J	22100 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	280 U	280 U	320 U
Aroclor-1221 (PCB-1221)	ug/kg	--	280 UJ	280 UJ	320 UJ
Aroclor-1232 (PCB-1232)	ug/kg	--	280 U	280 U	320 U
Aroclor-1242 (PCB-1242)	ug/kg	--	280 U	280 U	320 U
Aroclor-1248 (PCB-1248)	ug/kg	--	280 U	280 U	320 U
Aroclor-1254 (PCB-1254)	ug/kg	--	280 U	280 U	320 U
Aroclor-1260 (PCB-1260)	ug/kg	--	280 U	280 U	320 U
Total PCBs	ug/kg	--	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB34-10	SB34-10	SB35-10	SB35-10
Sample Identification		SO-17360-4/20/10-DR-040	SO-17360-4/20/10-DR-041	SO-17360-4/20/10-DR-032	SO-17360-4/20/10-DR-033
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	2900 U	1100 U	96 J	460 J
Acenaphthene	ug/kg	2900 U	1100 U	1200 U	1600 J
Acenaphthylene	ug/kg	2900 U	1100 U	1200 U	840 J
Anthracene	ug/kg	2900 U	1100 U	1200 U	5600 J
Benzo(a)anthracene	ug/kg	2900 U	1100 U	95 J	**23000[o]**
Benzo(a)pyrene	ug/kg	2900 U	1100 U	79 J	**23000[op]**
Benzo(b)fluoranthene	ug/kg	2900 U	1100 U	140 J	**34000[o]**
Benzo(g,h,i)perylene	ug/kg	2900 U	1100 U	77 J	16000
Benzo(k)fluoranthene	ug/kg	2900 U	1100 U	43 J	11000 J
Chrysene	ug/kg	2900 U	1100 U	150 J	25000
Dibenz(a,h)anthracene	ug/kg	2900 U	1100 U	1200 U	**5200 J[o]**
Fluoranthene	ug/kg	2900 U	1100 U	150 J	**41000[d]**
Fluorene	ug/kg	2900 U	1100 U	1200 U	2000 J
Indeno(1,2,3-cd)pyrene	ug/kg	2900 U	1100 U	50 J	14000
Naphthalene	ug/kg	2900 U	1100 U	39 J	**810 J[d]**
Phenanthrene	ug/kg	2900 U	1100 U	200 J	**22000[d]**
Pyrene	ug/kg	2900 U	1100 U	120 J	31000
Metals					
Aluminum	ug/kg	2490000	2120000	1850000	1770000
Antimony	ug/kg	180 UJ	170 UJ	190 UJ	430 J
Arsenic	ug/kg	2200 J	1200	4900 J	**6500 J[bcd]**
Barium	ug/kg	9300	6600	92900	68700
Beryllium	ug/kg	180 U	170 U	430	180 U
Cadmium	ug/kg	89 U	86 U	94 U	270
Calcium	ug/kg	563000 J	4290000 J	1390000 J	2620000 J
Chromium	ug/kg	5100	6100	6700	**244000[bcdn]**
Chromium III (trivalent)	ug/kg	--	--	--	244000
Chromium VI (hexavalent)	ug/kg	--	--	--	900 U

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB34-10	SB34-10	SB35-10	SB35-10
Sample Identification		SO-17360-4/20/10-DR-040	SO-17360-4/20/10-DR-041	SO-17360-4/20/10-DR-032	SO-17360-4/20/10-DR-033
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	1400	2200	5000	**10400**[bcd]
Copper	ug/kg	1500	4400	20300	43200
Iron	ug/kg	3420000	3290000	5240000	**12700000**[bc]
Lead	ug/kg	1800	1900	9800	382000
Lead - coarse fraction	ug/kg	--	--	--	**760000**[bco]
Lead - fine fraction	ug/kg	--	--	--	**1350000**[bcop]
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	**862000**[bco]
Magnesium	ug/kg	828000	3020000 J	311000	745000
Manganese	ug/kg	25900	37500	33900	315000
Mercury	ug/kg	45 U	43 U	47 U	45 U
Nickel	ug/kg	4000 J	5100	15100 J	**169000 J**[bcd]
Potassium	ug/kg	117000 J	174000 J	164000 J	135000 J
Selenium	ug/kg	180 J	280 J	410 J	400 J
Silver	ug/kg	89 U	86 U	42 J	110
Sodium	ug/kg	629000	277000	290000	452000
Thallium	ug/kg	89 U	86 U	94 U	97 U
Vanadium	ug/kg	7400	8400	7800	12400
Zinc	ug/kg	6000 J	8500 J	43800 J	38200 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	280 U	310 U	300 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	280 U	310 U	300 U
Total PCBs	ug/kg	0	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB35-10	SB35-10	SB35-10	SB36-10
Sample Identification		SO-17360-4/20/10-DR-034	SO-17360-4/20/10-DR-035	SO-17360-4/20/10-DR-036	SO-17360-4/20/10-DR-021
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	2200 J	300 U	290 U	76 J
Acenaphthene	ug/kg	**18000 J[d]**	300 U	290 U	30 J
Acenaphthylene	ug/kg	62000 U	300 U	290 U	9.9 J
Anthracene	ug/kg	36000 J	300 U	290 U	79 J
Benzo(a)anthracene	ug/kg	**100000[op]**	30 J	8.5 J	320
Benzo(a)pyrene	ug/kg	**91000[op]**	25 J	290 U	310
Benzo(b)fluoranthene	ug/kg	**130000[op]**	38 J	10 J	620
Benzo(g,h,i)perylene	ug/kg	61000 J	15 J	290 U	280 J
Benzo(k)fluoranthene	ug/kg	42000 J	13 J	290 U	170 J
Chrysene	ug/kg	110000	32 J	8.0 J	430
Dibenz(a,h)anthracene	ug/kg	**18000 J[op]**	300 U	290 U	84 J
Fluoranthene	ug/kg	**250000[d]**	43 J	16 J	710
Fluorene	ug/kg	**17000 J[d]**	300 U	290 U	32 J
Indeno(1,2,3-cd)pyrene	ug/kg	**53000 J[o]**	13 J	290 U	240 J
Naphthalene	ug/kg	**4000 J[d]**	300 U	290 U	46 J
Phenanthrene	ug/kg	**180000[bcdgik]**	29 J	12 J	460
Pyrene	ug/kg	180000	35 J	13 J	530
Metals					
Aluminum	ug/kg	4270000	2610000	2080000	2730000
Antimony	ug/kg	970 J	180 UJ	170 UJ	590 J
Arsenic	ug/kg	3700 J	2000 J	680 J	5800 J
Barium	ug/kg	49800	8800	5700	72600
Beryllium	ug/kg	190 U	180 U	170 U	180 U
Cadmium	ug/kg	450	90 U	87 U	120
Calcium	ug/kg	78000000 J	788000 J	602000 J	15100000 J
Chromium	ug/kg	**919000[bcdmn]**	6700	4700	**862000[bcdmn]**
Chromium III (trivalent)	ug/kg	917000	--	--	861000
Chromium VI (hexavalent)	ug/kg	1200	--	--	1500

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB35-10**	**SB35-10**	**SB35-10**	**SB36-10**
Sample Identification		**SO-17360-4/20/10-DR-034**	**SO-17360-4/20/10-DR-035**	**SO-17360-4/20/10-DR-036**	**SO-17360-4/20/10-DR-021**
Sample Date		**4/20/2010**	**4/20/2010**	**4/20/2010**	**4/20/2010**
Sample Type					
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	**10300[bcd]**	1700	1200	**13600[bcd]**
Copper	ug/kg	**165000[d]**	2400	3400	68600
Iron	ug/kg	**30900000[bc]**	3580000	3100000	**14600000[bc]**
Lead	ug/kg	**4750000[bcop]**	3400	1600	42500
Lead - coarse fraction	ug/kg	**5440000[bcop]**	--	--	42700
Lead - fine fraction	ug/kg	**9210000[bcop]**	--	--	83000
Lead - total (calculated by fine/coarse fraction)	ug/kg	**5720000[bcop]**	--	--	54700
Magnesium	ug/kg	**14300000[b]**	1000000	524000	3240000
Manganese	ug/kg	**813000[bcd]**	25600	15600	**795000[bcd]**
Mercury	ug/kg	47 U	18 J	43 U	44 U
Nickel	ug/kg	**535000 J[bcd]**	4600 J	3200 J	**477000 J[bcd]**
Potassium	ug/kg	417000 J	229000 J	115000 J	273000 J
Selenium	ug/kg	200 J	170 J	300 J	**440 J[d]**
Silver	ug/kg	330	90 U	87 U	230
Sodium	ug/kg	1120000	446000	210000	1220000
Thallium	ug/kg	470 U	90 U	87 U	97 U
Vanadium	ug/kg	13400	9200	5400	10800
Zinc	ug/kg	49400 J	6600 J	5500 J	69200 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	310 U	300 U	290 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	40 J	300 U	290 U	290 U
Total PCBs	ug/kg	40 J	0	0	0

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB36-10	SB36-10	SB36-10	SB36-10
Sample Identification		SO-17360-4/20/10-DR-022	SO-17360-4/20/10-DR-023	SO-17360-4/20/10-DR-024	SO-17360-4/20/10-DR-025
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type		Duplicate			
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	68 J	100 J	200 J	290 U
Acenaphthene	ug/kg	19 J	530 J	54 J	290 U
Acenaphthylene	ug/kg	9.0 J	3600 U	1100 U	290 U
Anthracene	ug/kg	47 J	1500 J	120 J	290 U
Benzo(a)anthracene	ug/kg	220 J	5300	320 J	290 U
Benzo(a)pyrene	ug/kg	220 J	**4900[o]**	300 J	290 U
Benzo(b)fluoranthene	ug/kg	470	8000	460 J	290 U
Benzo(g,h,i)perylene	ug/kg	230 J	4100	240 J	290 U
Benzo(k)fluoranthene	ug/kg	120 J	2500 J	110 J	290 U
Chrysene	ug/kg	310	5900	350 J	290 U
Dibenz(a,h)anthracene	ug/kg	64 J	1100 J	48 J	290 U
Fluoranthene	ug/kg	430	**14000[d]**	800 J	290 U
Fluorene	ug/kg	17 J	540 J	48 J	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	200 J	3600	200 J	290 U
Naphthalene	ug/kg	43 J	130 J	130 J	290 U
Phenanthrene	ug/kg	270 J	**6900[d]**	500 J	290 U
Pyrene	ug/kg	340	8400	630 J	290 U
Metals					
Aluminum	ug/kg	2940000	1120000	373000	2840000
Antimony	ug/kg	600 J	2200 J	**5000 J[bc]**	170 UJ
Arsenic	ug/kg	5200 J	**8300 J[bcdo]**	1400 J	760 J
Barium	ug/kg	74600	36000	8000	15200
Beryllium	ug/kg	170 U	170 U	170 U	170 U
Cadmium	ug/kg	130	430 U	230	87 U
Calcium	ug/kg	16100000 J	13500000 J	742000 J	417000 J
Chromium	ug/kg	**424000[bcdmn]**	**2540000[bcdmno]**	**233000[bcd]**	5400
Chromium III (trivalent)	ug/kg	--	2540000	233000	--
Chromium VI (hexavalent)	ug/kg	--	1400	840 U	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB36-10**	**SB36-10**	**SB36-10**	**SB36-10**
Sample Identification		**SO-17360-4/20/10-DR-022**	**SO-17360-4/20/10-DR-023**	**SO-17360-4/20/10-DR-024**	**SO-17360-4/20/10-DR-025**
Sample Date		**4/20/2010**	**4/20/2010**	**4/20/2010**	**4/20/2010**
Sample Type		**Duplicate**			
Sample Depth		**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	**17600[bcd]**	**268000[bcd]**	**7000[bcd]**	1500
Copper	ug/kg	60000	122000	13200	1000
Iron	ug/kg	**12100000[bc]**	**122000000[bc]**	**15200000[bc]**	2650000
Lead	ug/kg	44100	173000	37600	2500
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	4100000	2960000	165000	794000
Manganese	ug/kg	**593000[bcd]**	**1040000[bcd]**	221000	22300
Mercury	ug/kg	43 U	43 U	42 U	44 U
Nickel	ug/kg	**246000 J[bcd]**	**5540000 J[bcd]**	**216000 J[bcd]**	3200 J
Potassium	ug/kg	286000 J	138000 J	418000 U	168000 J
Selenium	ug/kg	390 J	120 J	170 UJ	140 J
Silver	ug/kg	170	840	**2100[d]**	87 U
Sodium	ug/kg	1160000	428000	359000	726000
Thallium	ug/kg	88 U	86 U	84 U	87 U
Vanadium	ug/kg	11300	33400	2100	8000
Zinc	ug/kg	67200 J	27800 J	11700 J	6400 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	570 U	280 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	570 U	280 U	290 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB36-10	SB37-10	SB37-10	SB37-10
Sample Identification		SO-17360-4/20/10-DR-026	SO-17360-4/20/10-DR-015	SO-17360-4/20/10-DR-016	SO-17360-4/20/10-DR-017
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type				Duplicate	
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	280 U	5500 U	5400 U	11 J
Acenaphthene	ug/kg	280 U	5500 U	5400 U	290 U
Acenaphthylene	ug/kg	280 U	5500 U	5400 U	290 U
Anthracene	ug/kg	280 U	5500 U	5400 U	290 U
Benzo(a)anthracene	ug/kg	280 U	5500 U	5400 U	12 J
Benzo(a)pyrene	ug/kg	280 U	5500 U	5400 U	8.5 J
Benzo(b)fluoranthene	ug/kg	280 U	5500 U	5400 U	19 J
Benzo(g,h,i)perylene	ug/kg	280 U	5500 U	5400 U	12 J
Benzo(k)fluoranthene	ug/kg	280 U	5500 U	5400 U	8.7 J
Chrysene	ug/kg	280 U	5500 U	5400 U	21 J
Dibenz(a,h)anthracene	ug/kg	280 U	5500 U	5400 U	290 U
Fluoranthene	ug/kg	280 U	5500 U	5400 U	18 J
Fluorene	ug/kg	280 U	5500 U	5400 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	5500 U	5400 U	8.1 J
Naphthalene	ug/kg	280 U	5500 U	5400 U	290 U
Phenanthrene	ug/kg	280 U	5500 U	5400 U	19 J
Pyrene	ug/kg	280 U	5500 U	5400 U	13 J
Metals					
Aluminum	ug/kg	1320000	487000	343000	1150000
Antimony	ug/kg	170 UJ	1500 J	1500 J	340 J
Arsenic	ug/kg	470 J	1200 J	1200 J	1700 J
Barium	ug/kg	3100	6400	4500	57400
Beryllium	ug/kg	170 U	170 U	160 U	180 U
Cadmium	ug/kg	85 U	83 U	82 U	98 U
Calcium	ug/kg	253000 J	4200000	4310000	7150000
Chromium	ug/kg	3700	12000	16100	11100
Chromium III (trivalent)	ug/kg	--	--	16100	--
Chromium VI (hexavalent)	ug/kg	--	--	820 U	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB36-10	SB37-10	SB37-10	SB37-10
Sample Identification		SO-17360-4/20/10-DR-026	SO-17360-4/20/10-DR-015	SO-17360-4/20/10-DR-016	SO-17360-4/20/10-DR-017
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type				Duplicate	
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	1000	930	720	3400
Copper	ug/kg	1000	6000	6300	13000
Iron	ug/kg	1670000	3730000	5310000	5330000
Lead	ug/kg	1400	14900	13900	10900
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	565000	830000	1080000	1910000
Manganese	ug/kg	14900	46000	69000	60500
Mercury	ug/kg	43 U	41 U	41 U	44 U
Nickel	ug/kg	2300 J	9000	8900	15600
Potassium	ug/kg	107000 J	58400 J	46700 J	128000 J
Selenium	ug/kg	100 J	170 UJ	160 UJ	150 J
Silver	ug/kg	85 U	83 U	82 U	220
Sodium	ug/kg	460000	320000	315000	416000
Thallium	ug/kg	85 U	83 U	82 U	88 U
Vanadium	ug/kg	5400	1700	1300	5500
Zinc	ug/kg	3000 U	10200	9300	18600
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U	270 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U	270 U	290 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB37-10	SB37-10	SB37-10	SB38-10
Sample Identification		SO-17360-4/20/10-DR-018	SO-17360-4/20/10-DR-019	SO-17360-4/20/10-DR-020	SO-17360-4/20/10-DR-009
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	8.2 J	290 U	280 U	280 U
Acenaphthene	ug/kg	290 U	290 U	280 U	280 U
Acenaphthylene	ug/kg	290 U	290 U	280 U	280 U
Anthracene	ug/kg	290 U	290 U	280 U	8.9 J
Benzo(a)anthracene	ug/kg	8.0 J	290 U	280 U	35 J
Benzo(a)pyrene	ug/kg	9.0 J	290 U	280 U	35 J
Benzo(b)fluoranthene	ug/kg	16 J	290 U	280 U	50 J
Benzo(g,h,i)perylene	ug/kg	8.6 J	290 U	280 U	29 J
Benzo(k)fluoranthene	ug/kg	290 U	290 U	280 U	19 J
Chrysene	ug/kg	14 J	290 U	280 U	44 J
Dibenz(a,h)anthracene	ug/kg	290 U	290 U	280 U	280 U
Fluoranthene	ug/kg	17 J	290 U	280 U	75 J
Fluorene	ug/kg	290 U	290 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	7.7 J	290 U	280 U	23 J
Naphthalene	ug/kg	290 U	290 U	280 U	280 U
Phenanthrene	ug/kg	10 J	290 U	280 U	33 J
Pyrene	ug/kg	11 J	290 U	280 U	58 J
Metals					
Aluminum	ug/kg	3230000	3940000	2380000	994000
Antimony	ug/kg	170 UJ	180 UJ	170 UJ	170 UJ
Arsenic	ug/kg	1200 J	1100 J	1400 J	1000 J
Barium	ug/kg	20300	7100	4700	4500
Beryllium	ug/kg	170 U	180 U	170 U	170 U
Cadmium	ug/kg	180	88 U	85 U	84 U
Calcium	ug/kg	413000 J	272000 J	310000 J	12300000
Chromium	ug/kg	3400	4800	6000	3200
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB37-10	SB37-10	SB37-10	SB38-10
Sample Identification		SO-17360-4/20/10-DR-018	SO-17360-4/20/10-DR-019	SO-17360-4/20/10-DR-020	SO-17360-4/20/10-DR-009
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	1100	2000	2200	1100
Copper	ug/kg	1300	880 U	2100	3200
Iron	ug/kg	3840000	4030000	5000000	2500000
Lead	ug/kg	4600	1900	1800	2900
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	320000	545000	860000	4880000
Manganese	ug/kg	28900	19300	32500	55800
Mercury	ug/kg	19 J	44 U	42 U	42 U
Nickel	ug/kg	8500	3200	3900	3500
Potassium	ug/kg	132000 J	115000 J	130000 J	163000 J
Selenium	ug/kg	160 J	170 J	110 J	97 J
Silver	ug/kg	87 U	88 U	85 U	84 U
Sodium	ug/kg	546000	583000	241000	545000
Thallium	ug/kg	87 U	88 U	85 U	84 U
Vanadium	ug/kg	6900	7700	9800	3900
Zinc	ug/kg	11000	6700	7800	11000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	290 U	280 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	290 U	280 U	280 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB38-10	SB38-10	SB38-10	SB38-10
Sample Identification		SO-17360-4/20/10-DR-010	SO-17360-4/20/10-DR-011	SO-17360-4/20/10-DR-012	SO-17360-4/20/10-DR-013
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	11 J	9.8 J	280 U	280 U
Acenaphthene	ug/kg	280 U	280 U	280 U	280 U
Acenaphthylene	ug/kg	280 U	280 U	280 U	280 U
Anthracene	ug/kg	11 J	12 J	280 U	280 U
Benzo(a)anthracene	ug/kg	46 J	48 J	280 U	280 U
Benzo(a)pyrene	ug/kg	52 J	52 J	280 U	280 U
Benzo(b)fluoranthene	ug/kg	73 J	73 J	280 U	280 U
Benzo(g,h,i)perylene	ug/kg	48 J	48 J	280 U	280 U
Benzo(k)fluoranthene	ug/kg	33 J	30 J	280 U	280 U
Chrysene	ug/kg	64 J	61 J	280 U	280 U
Dibenz(a,h)anthracene	ug/kg	280 U	280 U	280 U	280 U
Fluoranthene	ug/kg	110 J	110 J	280 U	280 U
Fluorene	ug/kg	280 U	280 U	280 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	35 J	35 J	280 U	280 U
Naphthalene	ug/kg	9.2 J	280 U	280 U	280 U
Phenanthrene	ug/kg	52 J	52 J	280 U	280 U
Pyrene	ug/kg	79 J	81 J	280 U	280 U
Metals					
Aluminum	ug/kg	2050000	1760000	3910000	2540000
Antimony	ug/kg	170 UJ	180 J	170 UJ	170 UJ
Arsenic	ug/kg	1300 J	1400 J	1000 J	1200 J
Barium	ug/kg	10200	9900	7300	7200
Beryllium	ug/kg	170 U	170 U	170 U	170 U
Cadmium	ug/kg	530	410	110 U	84 U
Calcium	ug/kg	8330000	7450000	249000 J	300000 J
Chromium	ug/kg	11400	8600	4000	4300
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB38-10	SB38-10	SB38-10	SB38-10
Sample Identification		SO-17360-4/20/10-DR-010	SO-17360-4/20/10-DR-011	SO-17360-4/20/10-DR-012	SO-17360-4/20/10-DR-013
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	2000	1800	1600	1700
Copper	ug/kg	13300	7100	1100	1200
Iron	ug/kg	5050000	5150000	3830000	3550000
Lead	ug/kg	10500	12300	2200	1700
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	2100000	1780000	496000	728000
Manganese	ug/kg	91800	85400	18600	24900
Mercury	ug/kg	42 U	42 U	43 U	42 U
Nickel	ug/kg	16600	15600	3600	3500
Potassium	ug/kg	120000 J	104000 J	104000 J	93500 J
Selenium	ug/kg	140 J	120 J	170 UJ	110 J
Silver	ug/kg	810	670	86 U	84 U
Sodium	ug/kg	1550000	1500000	924000	442000
Thallium	ug/kg	85 U	85 U	86 U	84 U
Vanadium	ug/kg	5000	4100	6700	6700
Zinc	ug/kg	21000	23100	6400	5900
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U	280 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U	280 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U	280 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U	280 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U	280 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	28 J	22 J	280 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	280 U	280 U	280 U
Total PCBs	ug/kg	28 J	22 J	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB38-10	SB39-10	SB39-10	SB39-10
Sample Identification		SO-17360-4/20/10-DR-014	SO-17360-4/20/10-DR-001	SO-17360-4/20/10-DR-002	SO-17360-4/20/10-DR-003
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	280 U	5400 U	290 U	2700 U
Acenaphthene	ug/kg	280 U	5400 U	290 U	2700 U
Acenaphthylene	ug/kg	280 U	5400 U	290 U	2700 U
Anthracene	ug/kg	280 U	5400 U	290 U	2700 U
Benzo(a)anthracene	ug/kg	280 U	5400 U	23 J	2700 U
Benzo(a)pyrene	ug/kg	280 U	5400 U	25 J	2700 U
Benzo(b)fluoranthene	ug/kg	280 U	5400 U	35 J	2700 U
Benzo(g,h,i)perylene	ug/kg	280 U	5400 U	26 J	2700 U
Benzo(k)fluoranthene	ug/kg	280 U	5400 U	14 J	2700 U
Chrysene	ug/kg	280 U	5400 U	28 J	2700 U
Dibenz(a,h)anthracene	ug/kg	280 U	5400 U	290 U	2700 U
Fluoranthene	ug/kg	280 U	5400 U	47 J	2700 U
Fluorene	ug/kg	280 U	5400 U	290 U	2700 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	5400 U	18 J	2700 U
Naphthalene	ug/kg	280 U	5400 U	290 U	2700 U
Phenanthrene	ug/kg	280 U	5400 U	19 J	2700 U
Pyrene	ug/kg	280 U	5400 U	36 J	2700 U
Metals					
Aluminum	ug/kg	2650000	2230000	2190000	2080000
Antimony	ug/kg	170 UJ	160 UJ	180 UJ	170 UJ
Arsenic	ug/kg	1700 J	1800 J	1900 J	2100 J
Barium	ug/kg	6700	14300	12700	12900
Beryllium	ug/kg	170 U	160 U	180 U	170 U
Cadmium	ug/kg	85 U	77 J	88 U	83 U
Calcium	ug/kg	421000 J	46900000	33800000	44700000
Chromium	ug/kg	6300	5800	5700	5500
Chromium III (trivalent)	ug/kg	--	--	--	--
Chromium VI (hexavalent)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB38-10**	**SB39-10**	**SB39-10**	**SB39-10**
Sample Identification		**SO-17360-4/20/10-DR-014**	**SO-17360-4/20/10-DR-001**	**SO-17360-4/20/10-DR-002**	**SO-17360-4/20/10-DR-003**
Sample Date		**4/20/2010**	**4/20/2010**	**4/20/2010**	**4/20/2010**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**	**(4-6) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	2900	2200	2200	2200
Copper	ug/kg	4400	10200	7500	7800
Iron	ug/kg	5630000	4710000	5090000	5270000
Lead	ug/kg	2700	7000	6900	6000
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	1100000	**14600000[b]**	**8270000[b]**	**13000000[b]**
Manganese	ug/kg	68400	147000	145000	194000
Mercury	ug/kg	43 U	41 U	44 U	41 U
Nickel	ug/kg	5700	5500	5300	6100
Potassium	ug/kg	225000 J	418000	285000 J	283000 J
Selenium	ug/kg	**600 J[d]**	150 J	170 J	170 J
Silver	ug/kg	85 U	630	88 U	83 U
Sodium	ug/kg	1220000	104000	88100 U	75500 J
Thallium	ug/kg	85 U	82 U	88 U	83 U
Vanadium	ug/kg	9200	6800	8000	7300
Zinc	ug/kg	10600	14800	14100	15200
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U	290 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U	290 U	270 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB39-10	SB39-10	SB39-10	SB39-10
Sample Identification		SO-17360-4/20/10-DR-004	SO-17360-4/20/10-DR-005	SO-17360-4/20/10-DR-006	SO-17360-4/20/10-DR-007
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	270 U	270 U	99 J	280 U
Acenaphthene	ug/kg	270 U	13 J	290 U	280 U
Acenaphthylene	ug/kg	270 U	270 U	290 U	280 U
Anthracene	ug/kg	270 U	34 J	290 U	280 U
Benzo(a)anthracene	ug/kg	20 J	110 J	38 J	280 U
Benzo(a)pyrene	ug/kg	21 J	110 J	39 J	280 U
Benzo(b)fluoranthene	ug/kg	32 J	150 J	76 J	280 U
Benzo(g,h,i)perylene	ug/kg	19 J	75 J	40 J	280 U
Benzo(k)fluoranthene	ug/kg	9.5 J	50 J	19 J	280 U
Chrysene	ug/kg	26 J	130 J	63 J	280 U
Dibenz(a,h)anthracene	ug/kg	270 U	15 J	290 U	280 U
Fluoranthene	ug/kg	46 J	300	87 J	280 U
Fluorene	ug/kg	270 U	11 J	290 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	14 J	61 J	32 J	280 U
Naphthalene	ug/kg	270 U	270 U	63 J	280 U
Phenanthrene	ug/kg	22 J	120 J	86 J	280 U
Pyrene	ug/kg	36 J	210 J	60 J	280 U
Metals					
Aluminum	ug/kg	1880000	1780000	2810000	3510000
Antimony	ug/kg	160 UJ	160 UJ	140 J	170 UJ
Arsenic	ug/kg	1500 J	1500 J	2100 J	620 J
Barium	ug/kg	9300	8000	27700	11600
Beryllium	ug/kg	160 U	160 U	170 U	170 U
Cadmium	ug/kg	82 U	82 U	1100	85 U
Calcium	ug/kg	25600000	24000000	13900000	518000
Chromium	ug/kg	5300	4200	13100	4800
Chromium III (trivalent)	ug/kg	--	--	12800	--
Chromium VI (hexavalent)	ug/kg	--	--	380 J	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB39-10**	**SB39-10**	**SB39-10**	**SB39-10**
Sample Identification		**SO-17360-4/20/10-DR-004**	**SO-17360-4/20/10-DR-005**	**SO-17360-4/20/10-DR-006**	**SO-17360-4/20/10-DR-007**
Sample Date		**4/20/2010**	**4/20/2010**	**4/20/2010**	**4/20/2010**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(10-12) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	1800	1800	2400	1500
Copper	ug/kg	4700	4000	13700	850 U
Iron	ug/kg	4110000	3510000	4760000	3610000
Lead	ug/kg	6400	4000	18200	1900
Lead - coarse fraction	ug/kg	--	--	--	--
Lead - fine fraction	ug/kg	--	--	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--	--	--
Magnesium	ug/kg	**9640000[b]**	**8810000[b]**	2110000	693000
Manganese	ug/kg	108000	105000	106000	22500
Mercury	ug/kg	41 U	41 U	43 U	42 U
Nickel	ug/kg	4000	3500	11900	3100
Potassium	ug/kg	232000 J	194000 J	153000 J	104000 J
Selenium	ug/kg	130 J	160 J	160 J	110 J
Silver	ug/kg	720	82 U	86 U	85 U
Sodium	ug/kg	82100 U	82200 U	86500 U	84800 U
Thallium	ug/kg	82 U	82 U	86 U	85 U
Vanadium	ug/kg	6300	6000	8200	7100
Zinc	ug/kg	13800	11000	26200	6500
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	290 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	290 U	280 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB39-10	SB40-10	SB40-10	SB40-10
Sample Identification		SO-17360-4/20/10-DR-008	SO-17360-4/20/10-DR-027	SO-17360-4/20/10-DR-028	SO-17360-4/20/10-DR-029
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(14-15) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	ug/kg	280 U	1000 J	550 J	210 J
Acenaphthene	ug/kg	280 U	2000 J	650 J	2100 J
Acenaphthylene	ug/kg	280 U	2900 J	1300 J	7100 U
Anthracene	ug/kg	280 U	6700 J	2700 J	5200 J
Benzo(a)anthracene	ug/kg	280 U	**30000°**	12000	12000
Benzo(a)pyrene	ug/kg	280 U	**27000^{op}**	**9900^{op}**	**11000^{op}**
Benzo(b)fluoranthene	ug/kg	280 U	**42000°**	15000	15000
Benzo(g,h,i)perylene	ug/kg	280 U	20000	7700	7600
Benzo(k)fluoranthene	ug/kg	280 U	13000 J	5900 J	6000 J
Chrysene	ug/kg	280 U	30000	11000	13000
Dibenz(a,h)anthracene	ug/kg	280 U	**5600 J^{o}**	2000 J	1600 J
Fluoranthene	ug/kg	280 U	**53000^{d}**	**21000^{d}**	**32000^{d}**
Fluorene	ug/kg	280 U	2700 J	1100 J	2400 J
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	16000	6400 J	5900 J
Naphthalene	ug/kg	280 U	**1500 J^{d}**	**780 J^{d}**	7100 U
Phenanthrene	ug/kg	280 U	**25000^{d}**	**11000^{d}**	**25000^{d}**
Pyrene	ug/kg	280 U	37000	14000	26000
Metals					
Aluminum	ug/kg	2310000	3580000	3110000	2840000
Antimony	ug/kg	170 UJ	**27800 J^{bc}**	**5800 J^{bc}**	1800 J
Arsenic	ug/kg	730 J	**11400 J^{bcdo}**	**7400 J^{bcd}**	**6200 J^{bcd}**
Barium	ug/kg	10600	329000	92000	67300
Beryllium	ug/kg	170 U	180 U	180 U	170 U
Cadmium	ug/kg	84 U	3900	1100	430 U
Calcium	ug/kg	311000 J	29400000 J	31200000 J	51900000 J
Chromium	ug/kg	4400	**475000^{bcdmn}**	**170000^{bcd}**	**53400^{bcd}**
Chromium III (trivalent)	ug/kg	--	471000	169000	52600
Chromium VI (hexavalent)	ug/kg	--	**3700^{d}**	1100	780 J

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB39-10	SB40-10	SB40-10	SB40-10
Sample Identification		SO-17360-4/20/10-DR-008	SO-17360-4/20/10-DR-027	SO-17360-4/20/10-DR-028	SO-17360-4/20/10-DR-029
Sample Date		4/20/2010	4/20/2010	4/20/2010	4/20/2010
Sample Type					
Sample Depth		(14-15) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1	AOI 27, AOI 4.1
Cobalt	ug/kg	1400	**15600**[bcd]	**33100**[bcd]	**9200**[bcd]
Copper	ug/kg	840 U	**613000**[d]	**240000**[d]	75900
Iron	ug/kg	3280000	**61600000**[bc]	**68500000**[bc]	**84000000**[bc]
Lead	ug/kg	1700	**976000**[bcop]	**576000**[o]	37300
Lead - coarse fraction	ug/kg	--	**1130000**[bcop]	**786000**[bco]	--
Lead - fine fraction	ug/kg	--	**1260000**[bcop]	**578000**[o]	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	**1140000**[bcop]	**757000**[bco]	--
Magnesium	ug/kg	612000	**9200000**[b]	4540000	**8450000**[b]
Manganese	ug/kg	20000	**914000**[bcd]	**717000**[bcd]	**740000**[bcd]
Mercury	ug/kg	42 U	**420**[d]	**280**[d]	24 J
Nickel	ug/kg	2700	**268000 J**[bcd]	**141000 J**[bc]	61700 J
Potassium	ug/kg	88400 J	463000 J	305000 J	373000 J
Selenium	ug/kg	170 UJ	**910 J**[d]	280 J	160 J
Silver	ug/kg	84 U	**1300**[d]	250	97
Sodium	ug/kg	84100 U	1380000	892000	672000
Thallium	ug/kg	84 U	230	89 U	86 U
Vanadium	ug/kg	6700	15800	12000	8400
Zinc	ug/kg	4900	**819000 J**[d]	260000 J	105000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	580 U	290 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	580 U	290 U	280 U
Total PCBs	ug/kg	0	0	0	0

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB40-10	SB40-10
Sample Identification		SO-17360-4/20/10-DR-030	SO-17360-4/20/10-DR-031
Sample Date		4/20/2010	4/20/2010
Sample Type			
Sample Depth		(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 27, AOI 4.1	AOI 27, AOI 4.1
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	17000 U	5700 U
Acenaphthene	ug/kg	3500 J	5700 U
Acenaphthylene	ug/kg	17000 U	5700 U
Anthracene	ug/kg	9100 J	5700 U
Benzo(a)anthracene	ug/kg	20000	5700 U
Benzo(a)pyrene	ug/kg	**18000[op]**	5700 U
Benzo(b)fluoranthene	ug/kg	**25000[o]**	5700 U
Benzo(g,h,i)perylene	ug/kg	11000 J	5700 U
Benzo(k)fluoranthene	ug/kg	8600 J	5700 U
Chrysene	ug/kg	21000	5700 U
Dibenz(a,h)anthracene	ug/kg	**2700 J[o]**	5700 U
Fluoranthene	ug/kg	**59000[d]**	5700 U
Fluorene	ug/kg	3900 J	5700 U
Indeno(1,2,3-cd)pyrene	ug/kg	9700 J	5700 U
Naphthalene	ug/kg	17000 U	5700 U
Phenanthrene	ug/kg	**41000[d]**	5700 U
Pyrene	ug/kg	37000	5700 U
Metals			
Aluminum	ug/kg	4540000	1910000
Antimony	ug/kg	200 UJ	170 UJ
Arsenic	ug/kg	2100 J	430 J
Barium	ug/kg	16100	6000
Beryllium	ug/kg	200 U	170 U
Cadmium	ug/kg	290	87 U
Calcium	ug/kg	8480000 J	564000 J
Chromium	ug/kg	11500	4700
Chromium III (trivalent)	ug/kg	--	--
Chromium VI (hexavalent)	ug/kg	--	--

Table 3.31

Soil Sample Analytical Results - AOI 27 – Oil Stores Bulk Unload Area (Bulk Unload Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB40-10**	**SB40-10**
Sample Identification		**SO-17360-4/20/10-DR-030**	**SO-17360-4/20/10-DR-031**
Sample Date		**4/20/2010**	**4/20/2010**
Sample Type			
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 27, AOI 4.1**	**AOI 27, AOI 4.1**
Cobalt	ug/kg	1900	1400
Copper	ug/kg	13600	2300
Iron	ug/kg	**12200000[bc]**	2010000
Lead	ug/kg	10400	1800
Lead - coarse fraction	ug/kg	--	--
Lead - fine fraction	ug/kg	--	--
Lead - total (calculated by fine/coarse fraction)	ug/kg	--	--
Magnesium	ug/kg	1400000	716000
Manganese	ug/kg	114000	18500
Mercury	ug/kg	28 J	43 U
Nickel	ug/kg	11600 J	3200 J
Potassium	ug/kg	412000 J	204000 J
Selenium	ug/kg	**760 J[d]**	210 J
Silver	ug/kg	29 J	87 U
Sodium	ug/kg	2670000	280000
Thallium	ug/kg	100 U	87 U
Vanadium	ug/kg	10200	6800
Zinc	ug/kg	52400 J	8000 J
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	330 U	290 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	290 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	290 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	290 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	290 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	290 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	290 U
Total PCBs	ug/kg	0	0

Table 3.33.1

Soil Sample Analytical Results - AOI 29.1 – Former Incinerator Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB112-11	SB112-11	SB112-11
Sample Identification		SO-17360-031511-DR-248	SO-17360-031511-DR-249	SO-17360-031511-DR-250
Sample Date		3/15/2011	3/15/2011	3/15/2011
Sample Type				Duplicate
Sample Depth		(2-4) ft BGS	(12-14) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 29.1	AOI 29.1	AOI 29.1
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	45 U	46 U	46 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	46 U	46 U
1,1,2-Trichloroethane	ug/kg	45 U	46 U	46 U
1,1-Dichloroethane	ug/kg	45 U	46 U	46 U
1,1-Dichloroethene	ug/kg	45 U	46 U	46 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U	230 U
1,2-Dichlorobenzene	ug/kg	90 U	93 U	92 U
1,2-Dichloroethane	ug/kg	45 U	46 U	46 U
1,2-Dichloropropane	ug/kg	45 U	46 U	46 U
1,3-Dichlorobenzene	ug/kg	90 U	93 U	92 U
1,4-Dichlorobenzene	ug/kg	90 U	93 U	92 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	670 U	700 U	690 U
2-Hexanone	ug/kg	2200 U	2300 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U	2300 U
Acetone	ug/kg	670 U	700 U	690 U
Benzene	ug/kg	45 U	46 U	46 U
Bromodichloromethane	ug/kg	90 U	93 U	92 U
Bromoform	ug/kg	90 U	93 U	92 U
Bromomethane (Methyl bromide)	ug/kg	220 U	230 U	230 U
Carbon disulfide	ug/kg	220 U	230 U	230 U
Carbon tetrachloride	ug/kg	45 U	46 U	46 U
Chlorobenzene	ug/kg	45 U	46 U	46 U
Chloroethane	ug/kg	220 U	230 U	230 U
Chloroform (Trichloromethane)	ug/kg	45 U	46 U	46 U
Chloromethane (Methyl chloride)	ug/kg	220 U	230 U	230 U
cis-1,2-Dichloroethene	ug/kg	45 U	46 U	46 U
cis-1,3-Dichloropropene	ug/kg	45 U	46 U	46 U
Cyclohexane	ug/kg	130 J	1100 U	1100 U
Dibromochloromethane	ug/kg	45 U	46 U	46 U
Dichlorodifluoromethane (CFC-12)	ug/kg	90 U	93 U	92 U
Ethylbenzene	ug/kg	23 J	46 U	46 U

Table 3.33.1

Soil Sample Analytical Results - AOI 29.1 – Former Incinerator Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB112-11	SB112-11	SB112-11
Sample Identification		SO-17360-031511-DR-248	SO-17360-031511-DR-249	SO-17360-031511-DR-250
Sample Date		3/15/2011	3/15/2011	3/15/2011
Sample Type				Duplicate
Sample Depth		(2-4) ft BGS	(12-14) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 29.1	AOI 29.1	AOI 29.1
Isopropyl benzene	ug/kg	17 J	230 U	230 U
Methyl acetate	ug/kg	2400	1100 U	1100 U
Methyl cyclohexane	ug/kg	190 J	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U	230 U
Methylene chloride	ug/kg	220 U	230 U	230 U
Styrene	ug/kg	45 U	46 U	46 U
Tetrachloroethene	ug/kg	46	46 U	46 U
Toluene	ug/kg	73 J	93 U	92 U
trans-1,2-Dichloroethene	ug/kg	45 U	46 U	46 U
trans-1,3-Dichloropropene	ug/kg	45 U	46 U	46 U
Trichloroethene	ug/kg	**110**[bc]	46 U	46 U
Trichlorofluoromethane (CFC-11)	ug/kg	90 U	93 U	92 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U	230 U
Vinyl chloride	ug/kg	36 U	37 U	37 U
Xylenes (total)	ug/kg	160	140 U	140 U
Semi-Volatile Organic Compounds (SVOCs)				
2-Methylnaphthalene	ug/kg	14000 U	280 U	270 U
Acenaphthene	ug/kg	14000 U	280 U	270 U
Acenaphthylene	ug/kg	14000 U	280 U	270 U
Anthracene	ug/kg	14000 U	280 U	270 U
Benzo(a)anthracene	ug/kg	14000 U	280 U	270 U
Benzo(a)pyrene	ug/kg	14000 U	280 U	270 U
Benzo(b)fluoranthene	ug/kg	14000 U	280 U	270 U
Benzo(g,h,i)perylene	ug/kg	14000 U	280 U	270 U
Benzo(k)fluoranthene	ug/kg	14000 U	280 U	270 U
Chrysene	ug/kg	14000 U	280 U	270 U
Dibenz(a,h)anthracene	ug/kg	14000 U	280 U	270 U
Fluoranthene	ug/kg	14000 U	280 U	270 U
Fluorene	ug/kg	14000 U	280 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	14000 U	280 U	270 U
Naphthalene	ug/kg	14000 U	280 U	270 U
Phenanthrene	ug/kg	14000 U	280 U	270 U
Pyrene	ug/kg	14000 U	280 U	270 U

Table 3.33.1

Soil Sample Analytical Results - AOI 29.1 – Former Incinerator Area No. 1
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB112-11**	**SB112-11**	**SB112-11**
Sample Identification		**SO-17360-031511-DR-248**	**SO-17360-031511-DR-249**	**SO-17360-031511-DR-250**
Sample Date		**3/15/2011**	**3/15/2011**	**3/15/2011**
Sample Type				**Duplicate**
Sample Depth		**(2-4) ft BGS**	**(12-14) ft BGS**	**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 29.1**	**AOI 29.1**	**AOI 29.1**
Metals				
Antimony	ug/kg	270 J	170 UJ	170 UJ
Arsenic	ug/kg	3500 J	930 J	1000 J
Barium	ug/kg	32100	2800	3500
Beryllium	ug/kg	360 U	170 U	180 U
Cadmium	ug/kg	140	84 U	83 U
Chromium	ug/kg	11600	3000	5600
Cobalt	ug/kg	2800	1100	1600
Copper	ug/kg	18200	2400	3100
Lead	ug/kg	15600	950	1200
Manganese	ug/kg	220000	71100	87200
Mercury	ug/kg	42 U	42 U	39 U
Nickel	ug/kg	9300	3000	4300
Selenium	ug/kg	210 J	170 UJ	170 UJ
Silver	ug/kg	83	84 U	83 U
Thallium	ug/kg	81 U	84 U	83 U
Vanadium	ug/kg	10100	3300	5000
Zinc	ug/kg	29900	6100	8400
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	280 U	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	21 J	280 U	270 U
Total PCBs	ug/kg	21 J	0	0

Table 3.35

Soil Sample Analytical Results - AOI 31 – Scrap Metal Storage Pad
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB213-12	SB213-12	SB214-12	SB214-12
Sample Identification		S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI					
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	54 U	48 U	53 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	54 U	48 U	53 U	52 U
1,1,2-Trichloroethane	ug/kg	54 U	48 U	53 U	52 U
1,1-Dichloroethane	ug/kg	54 U	48 U	53 U	52 U
1,1-Dichloroethene	ug/kg	54 U	48 U	53 U	52 U
1,2,4-Trichlorobenzene	ug/kg	54 U	48 U	53 U	52 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	270 U	240 U	270 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	54 U	48 U	53 U	52 U
1,2-Dichlorobenzene	ug/kg	54 U	48 U	53 U	52 U
1,2-Dichloroethane	ug/kg	54 U	48 U	53 U	52 U
1,2-Dichloropropane	ug/kg	54 U	48 U	53 U	52 U
1,3-Dichlorobenzene	ug/kg	54 U	48 U	53 U	52 U
1,4-Dichlorobenzene	ug/kg	54 U	48 U	53 U	52 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	810 U	720 U	800 U	780 U
2-Hexanone	ug/kg	2700 U	2400 U	2700 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2700 U	2400 U	2700 U	2600 U
Acetone	ug/kg	810 U	720 U	800 U	780 U
Benzene	ug/kg	54 U	48 U	53 U	52 U
Bromodichloromethane	ug/kg	54 U	48 U	53 U	52 U
Bromoform	ug/kg	54 U	48 U	53 U	52 U
Bromomethane (Methyl bromide)	ug/kg	54 U	48 U	53 U	52 U
Carbon disulfide	ug/kg	270 U	240 U	270 U	260 U
Carbon tetrachloride	ug/kg	54 U	48 U	53 U	52 U
Chlorobenzene	ug/kg	54 U	48 U	53 U	52 U
Chloroethane	ug/kg	54 U	48 U	53 U	52 U
Chloroform (Trichloromethane)	ug/kg	54 U	48 U	53 U	52 U
Chloromethane (Methyl chloride)	ug/kg	54 U	48 U	53 U	52 U
cis-1,2-Dichloroethene	ug/kg	54 U	48 U	53 U	52 U
cis-1,3-Dichloropropene	ug/kg	54 U	48 U	53 U	52 U
Cyclohexane	ug/kg	270 U	240 U	270 U	260 U
Dibromochloromethane	ug/kg	54 U	48 U	53 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	54 U	48 U	53 U	52 U
Ethylbenzene	ug/kg	54 U	48 U	53 U	52 U
Isopropyl benzene	ug/kg	54 U	48 U	53 U	52 U

Soil Sample Analytical Results - AOI 31 – Scrap Metal Storage Pad
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB213-12	SB213-12	SB214-12	SB214-12
Sample Identification		S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI					
Methyl acetate	ug/kg	270 U	240 U	270 U	260 U
Methyl cyclohexane	ug/kg	270 U	240 U	270 U	260 U
Methyl tert butyl ether (MTBE)	ug/kg	54 U	48 U	53 U	52 U
Methylene chloride	ug/kg	110 U	96 U	110 U	100 U
Styrene	ug/kg	54 U	48 U	53 U	52 U
Tetrachloroethene	ug/kg	54 U	26 J	53 U	52 U
Toluene	ug/kg	54 U	48 U	53 U	52 U
trans-1,2-Dichloroethene	ug/kg	54 U	48 U	53 U	52 U
trans-1,3-Dichloropropene	ug/kg	54 U	48 U	53 U	52 U
Trichloroethene	ug/kg	54 U	48 U	53 U	52 U
Trichlorofluoromethane (CFC-11)	ug/kg	54 U	48 U	53 U	52 U
Trifluorotrichloroethane (Freon 113)	ug/kg	54 U	48 U	53 U	52 U
Vinyl chloride	ug/kg	43 U	39 U	43 U	42 U
Xylenes (total)	ug/kg	160 U	140 U	160 U	160 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	90 U	18 U	89 U	17 U
2,4,5-Trichlorophenol	ug/kg	90 U	18 U	89 U	17 U
2,4,6-Trichlorophenol	ug/kg	90 U	18 U	89 U	17 U
2,4-Dichlorophenol	ug/kg	180 U	35 U	180 U	35 U
2,4-Dimethylphenol	ug/kg	900 U	180 U	890 U	170 U
2,4-Dinitrophenol	ug/kg	900 U	180 U	890 U	170 U
2,4-Dinitrotoluene	ug/kg	180 U	35 U	41 J	35 U
2,6-Dinitrotoluene	ug/kg	90 U	18 U	370	17 U
2-Chloronaphthalene	ug/kg	90 U	18 U	89 U	17 U
2-Chlorophenol	ug/kg	90 U	18 U	89 U	17 U
2-Methylnaphthalene	ug/kg	90 U	18 U	89 U	17 U
2-Methylphenol	ug/kg	90 U	18 U	89 U	17 U
2-Nitroaniline	ug/kg	90 U	18 U	89 U	17 U
2-Nitrophenol	ug/kg	90 U	18 U	89 U	17 U
3,3'-Dichlorobenzidine	ug/kg	4500 U	880 U	4400 U	860 U
3-Nitroaniline	ug/kg	180 U	35 U	180 U	35 U
4,6-Dinitro-2-methylphenol	ug/kg	900 U	180 U	890 U	170 U
4-Bromophenyl phenyl ether	ug/kg	90 U	18 U	89 U	17 U
4-Chloro-3-methylphenol	ug/kg	90 U	18 U	89 U	17 U

Soil Sample Analytical Results - AOI 31 – Scrap Metal Storage Pad
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB213-12	SB213-12	SB214-12	SB214-12
Sample Identification		S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI					
4-Chloroaniline	ug/kg	360 U	70 U	360 U	69 U
4-Chlorophenyl phenyl ether	ug/kg	90 U	18 U	89 U	17 U
4-Methylphenol	ug/kg	90 U	18 U	89 U	17 U
4-Nitroaniline	ug/kg	180 U	35 U	180 U	35 U
4-Nitrophenol	ug/kg	3600 U	700 U	3600 U	690 U
Acenaphthene	ug/kg	29 J	18 U	14 J	17 U
Acenaphthylene	ug/kg	90 U	18 U	5.3 J	17 U
Acetophenone	ug/kg	90 U	18 U	89 U	17 U
Anthracene	ug/kg	90 U	18 U	35 J	17 U
Atrazine	ug/kg	90 U	18 U	89 U	17 U
Benzaldehyde	ug/kg	R	R	R	R
Benzo(a)anthracene	ug/kg	160	18 U	170	17 U
Benzo(a)pyrene	ug/kg	110	18 U	120	17 U
Benzo(b)fluoranthene	ug/kg	180	18 U	190	17 U
Benzo(g,h,i)perylene	ug/kg	62 J	35 U	89 J	35 U
Benzo(k)fluoranthene	ug/kg	61 J	18 U	62 J	17 U
Biphenyl (1,1-Biphenyl)	ug/kg	90 U	18 U	89 U	17 U
bis(2-Chloroethoxy)methane	ug/kg	90 U	18 U	89 U	17 U
bis(2-Chloroethyl)ether	ug/kg	90 U	18 U	89 U	17 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	180 U	35 U	180 U	35 U
Butyl benzylphthalate (BBP)	ug/kg	180 U	35 U	180 U	35 U
Caprolactam	ug/kg	360 U	70 U	360 U	69 U
Carbazole	ug/kg	900 U	180 U	890 U	170 U
Chrysene	ug/kg	160	1.5 J	160	17 U
Dibenz(a,h)anthracene	ug/kg	26 J	35 U	37 J	35 U
Dibenzofuran	ug/kg	24 J	18 U	11 J	17 U
Diethyl phthalate	ug/kg	90 U	18 U	89 U	17 U
Dimethyl phthalate	ug/kg	90 U	18 U	89 U	17 U
Di-n-butylphthalate (DBP)	ug/kg	360 U	70 U	360 U	69 U
Di-n-octyl phthalate (DnOP)	ug/kg	90 U	18 U	25 J	17 U
Fluoranthene	ug/kg	390	1.1 J	320	17 U
Fluorene	ug/kg	17 J	35 U	12 J	35 U
Hexachlorobenzene	ug/kg	90 U	18 U	89 U	17 U
Hexachlorobutadiene	ug/kg	90 U	18 U	89 U	17 U
Hexachlorocyclopentadiene	ug/kg	90 U	18 U	89 U	17 U
Hexachloroethane	ug/kg	90 U	18 U	48 J	17 U

Table 3.35

Soil Sample Analytical Results - AOI 31 – Scrap Metal Storage Pad
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB213-12	SB213-12	SB214-12	SB214-12
Sample Identification		S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI					
Indeno(1,2,3-cd)pyrene	ug/kg	53 J	35 U	80 J	35 U
Isophorone	ug/kg	90 U	18 U	89 U	17 U
Naphthalene	ug/kg	3.7 J	18 U	89 U	17 U
Nitrobenzene	ug/kg	90 U	18 U	89 U	17 U
N-Nitrosodi-n-propylamine	ug/kg	90 U	18 U	46 J	17 U
N-Nitrosodiphenylamine	ug/kg	90 U	18 U	89 U	17 U
Pentachlorophenol	ug/kg	900 U	180 U	890 U	170 U
Phenanthrene	ug/kg	290	1.1 J	190	17 U
Phenol	ug/kg	900 U	180 U	890 U	170 U
Pyrene	ug/kg	390	18 U	340	17 U
Total solids	%	93	95	94	96
Metals					
Antimony	ug/kg	96 J	110	71 J	62 J
Arsenic	ug/kg	1100	**7300**[bcd]	1100	2400
Barium	ug/kg	21000 J	8600 J	31000 J	6200 J
Beryllium	ug/kg	160 J	120 J	160 J	120 J
Cadmium	ug/kg	36 J	41 J	61	35 J
Chromium	ug/kg	4900	6800	6300	5900
Cobalt	ug/kg	1600	3000	1900	3000
Copper	ug/kg	2800	8000	3800	7400
Iron	ug/kg	4900000	**16000000**[bc]	4800000	6500000
Lead	ug/kg	10000	5000	7700	2100
Manganese	ug/kg	79000	250000	160000	190000
Mercury	ug/kg	6.8 J	47 U	50 U	46 U
Molybdenum	ug/kg	120 J	510 J	180 J	270 J
Nickel	ug/kg	4300	8100	4900	7300
Selenium	ug/kg	91 J	160	100 U	100 U
Silver	ug/kg	19 J	26 J	18 J	22 J
Thallium	ug/kg	33 J	49 J	51	29 J
Vanadium	ug/kg	7500	13000	9100	11000
Zinc	ug/kg	13000	26000	20000	20000
Polychlorinated biphenyl (PCBs)					

Table 3.35

Soil Sample Analytical Results - AOI 31 – Scrap Metal Storage Pad
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB213-12	SB213-12	SB214-12	SB214-12
Sample Identification		S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125
Sample Date		10/30/2012	10/30/2012	10/30/2012	10/30/2012
Sample Type					
Sample Depth		(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI					
Aroclor-1016 (PCB-1016)	ug/kg	360 U	350 U	350 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	350 U	350 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	350 U	350 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	360 U	350 U	350 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	350 U	350 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	11 J	350 U	6.4 J	340 U
Aroclor-1260 (PCB-1260)	ug/kg	7.8 J	350 U	5.6 J	340 U
Total PCBs	ug/kg	18.8 J	0	12 J	0

Table 3.36

Soil Sample Analytical Results - AOI 32 – Compactor
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB114-11**	**SB114-11**
Sample Identification		**SO-17360-022111-DR-094**	**SO-17360-022111-DR-095**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 32**	**AOI 32**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	44 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	45 U
1,1,2-Trichloroethane	ug/kg	44 U	45 U
1,1-Dichloroethane	ug/kg	44 U	45 U
1,1-Dichloroethene	ug/kg	44 U	45 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U
1,2-Dichlorobenzene	ug/kg	88 U	91 U
1,2-Dichloroethane	ug/kg	44 U	45 U
1,2-Dichloropropane	ug/kg	44 U	45 U
1,3-Dichlorobenzene	ug/kg	88 U	91 U
1,4-Dichlorobenzene	ug/kg	88 U	91 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	680 U
2-Hexanone	ug/kg	2200 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U
Acetone	ug/kg	660 U	680 U
Benzene	ug/kg	44 U	45 U
Bromodichloromethane	ug/kg	88 U	91 U
Bromoform	ug/kg	88 U	91 U
Bromomethane (Methyl bromide)	ug/kg	220 U	230 U
Carbon disulfide	ug/kg	220 U	230 U
Carbon tetrachloride	ug/kg	44 U	45 U
Chlorobenzene	ug/kg	44 U	45 U
Chloroethane	ug/kg	220 U	230 U
Chloroform (Trichloromethane)	ug/kg	44 U	45 U
Chloromethane (Methyl chloride)	ug/kg	220 U	230 U
cis-1,2-Dichloroethene	ug/kg	44 U	45 U
cis-1,3-Dichloropropene	ug/kg	44 U	45 U
Cyclohexane	ug/kg	1100 U	1100 U
Dibromochloromethane	ug/kg	44 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	91 U
Ethylbenzene	ug/kg	44 U	45 U

Table 3.36

Soil Sample Analytical Results - AOI 32 – Compactor
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB114-11**	**SB114-11**
Sample Identification		**SO-17360-022111-DR-094**	**SO-17360-022111-DR-095**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 32**	**AOI 32**
Isopropyl benzene	ug/kg	220 U	230 U
Methyl acetate	ug/kg	1100 U	53 J
Methyl cyclohexane	ug/kg	1100 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U
Methylene chloride	ug/kg	220 U	230 U
Styrene	ug/kg	44 U	45 U
Tetrachloroethene	ug/kg	44 U	45 U
Toluene	ug/kg	88 U	91 U
trans-1,2-Dichloroethene	ug/kg	44 U	45 U
trans-1,3-Dichloropropene	ug/kg	44 U	45 U
Trichloroethene	ug/kg	44 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	91 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U
Vinyl chloride	ug/kg	35 U	36 U
Xylenes (total)	ug/kg	130 U	140 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	270 U	270 U
Acenaphthene	ug/kg	8.2 J	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	18 J	270 U
Benzo(a)anthracene	ug/kg	42 J	270 U
Benzo(a)pyrene	ug/kg	36 J	270 U
Benzo(b)fluoranthene	ug/kg	42 J	270 U
Benzo(g,h,i)perylene	ug/kg	26 J	270 U
Benzo(k)fluoranthene	ug/kg	24 J	270 U
Chrysene	ug/kg	40 J	270 U
Dibenz(a,h)anthracene	ug/kg	270 U	270 U
Fluoranthene	ug/kg	100 J	270 U
Fluorene	ug/kg	8.1 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	20 J	270 U
Naphthalene	ug/kg	270 U	270 U
Phenanthrene	ug/kg	80 J	270 U
Pyrene	ug/kg	83 J	270 U

Table 3.36

Soil Sample Analytical Results - AOI 32 – Compactor
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB114-11**	**SB114-11**
Sample Identification		**SO-17360-022111-DR-094**	**SO-17360-022111-DR-095**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 32**	**AOI 32**
Metals			
Antimony	ug/kg	75 J	160 UJ
Arsenic	ug/kg	1100	1100
Barium	ug/kg	11400	3600
Beryllium	ug/kg	160 U	160 U
Cadmium	ug/kg	56 J	82 U
Chromium	ug/kg	3300	3700
Cobalt	ug/kg	1200	1600
Copper	ug/kg	6300	3100
Lead	ug/kg	9400	1100
Manganese	ug/kg	57900	82300
Mercury	ug/kg	20 J	41 U
Nickel	ug/kg	2700	3600
Selenium	ug/kg	270 J	150 J
Silver	ug/kg	17 J	82 U
Thallium	ug/kg	82 U	82 U
Vanadium	ug/kg	4200	4100
Zinc	ug/kg	12700	5900
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U
Total PCBs	ug/kg	0	0

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB115-11	SB115-11	SB116-11	SB116-11	SB116-11
Sample Identification		SO-17360-022311-DR-124	SO-17360-022311-DR-125	SO-17360-030311-DR-163	SO-17360-030311-DR-164	SO-17360-030311-DR-165
Sample Date		2/23/2011	2/23/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					Duplicate	
Sample Depth		(2-4) ft BGS	(20-22) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 33	AOI 33	AOI 33	AOI 33	AOI 33
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,1,2-Trichloroethane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,1-Dichloroethane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,1-Dichloroethene	ug/kg	46 U	41 U	49 U	41 U	52 U
1,2,4-Trichlorobenzene	ug/kg	230 U	200 U	240 U	210 U	260 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 UJ	200 UJ	240 U	210 U	260 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	200 U	240 U	210 U	260 U
1,2-Dichlorobenzene	ug/kg	93 U	82 U	98 U	83 U	100 U
1,2-Dichloroethane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,2-Dichloropropane	ug/kg	46 U	41 U	49 U	41 U	52 U
1,3-Dichlorobenzene	ug/kg	93 U	82 U	98 U	83 U	100 U
1,4-Dichlorobenzene	ug/kg	93 U	82 U	98 U	83 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	700 U	610 U	110 J	620 U	790 U
2-Hexanone	ug/kg	2300 U	2000 U	2400 U	2100 U	2600 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2000 U	2400 U	2100 U	2600 U
Acetone	ug/kg	700 UJ	610 UJ	240 J	220 J	230 J
Benzene	ug/kg	46 U	41 U	49 U	41 U	52 U
Bromodichloromethane	ug/kg	93 U	82 U	98 U	83 U	100 U
Bromoform	ug/kg	93 UJ	82 UJ	98 U	83 U	100 U
Bromomethane (Methyl bromide)	ug/kg	230 U	200 U	240 U	210 U	260 U
Carbon disulfide	ug/kg	230 U	200 U	240 U	210 U	260 U
Carbon tetrachloride	ug/kg	46 U	41 U	49 U	41 U	52 U
Chlorobenzene	ug/kg	46 U	41 U	49 U	41 U	52 U
Chloroethane	ug/kg	230 U	200 U	240 U	210 U	260 U
Chloroform (Trichloromethane)	ug/kg	46 U	41 U	49 U	41 U	52 U
Chloromethane (Methyl chloride)	ug/kg	230 U	200 U	240 U	210 U	260 U
cis-1,2-Dichloroethene	ug/kg	46 U	41 U	49 U	41 U	52 U
cis-1,3-Dichloropropene	ug/kg	46 U	41 U	49 U	41 U	52 U
Cyclohexane	ug/kg	1100 U	980 U	1200 U	990 U	1300 U
Dibromochloromethane	ug/kg	46 U	41 U	49 U	41 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	93 U	82 U	98 U	83 U	100 U
Ethylbenzene	ug/kg	46 U	41 U	49 U	41 U	52 U

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB115-11	SB115-11	SB116-11	SB116-11	SB116-11
Sample Identification		SO-17360-022311-DR-124	SO-17360-022311-DR-125	SO-17360-030311-DR-163	SO-17360-030311-DR-164	SO-17360-030311-DR-165
Sample Date		2/23/2011	2/23/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					Duplicate	
Sample Depth		(2-4) ft BGS	(20-22) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 33	AOI 33	AOI 33	AOI 33	AOI 33
Isopropyl benzene	ug/kg	230 U	200 U	240 U	210 U	260 U
Methyl acetate	ug/kg	1100 U	980 U	1200 U	990 U	1300 U
Methyl cyclohexane	ug/kg	1100 U	980 U	1200 U	990 U	1300 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	200 U	240 U	210 U	260 U
Methylene chloride	ug/kg	230 U	200 U	240 U	210 U	260 U
Styrene	ug/kg	46 U	41 U	49 U	41 U	52 U
Tetrachloroethene	ug/kg	46 U	41 U	49 U	41 U	52 U
Toluene	ug/kg	93 U	82 U	98 U	83 U	100 U
trans-1,2-Dichloroethene	ug/kg	46 U	41 U	49 U	41 U	52 U
trans-1,3-Dichloropropene	ug/kg	46 U	41 U	49 U	41 U	52 U
Trichloroethene	ug/kg	46 U	41 U	49 U	41 U	52 U
Trichlorofluoromethane (CFC-11)	ug/kg	93 U	82 U	98 U	83 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	200 U	240 U	210 U	260 U
Vinyl chloride	ug/kg	37 U	33 U	39 U	33 U	42 U
Xylenes (total)	ug/kg	140 U	120 U	150 U	120 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	290 U	270 U	280 U	280 U	270 U
Acenaphthene	ug/kg	290 U	270 U	280 U	280 U	270 U
Acenaphthylene	ug/kg	290 U	270 U	280 U	280 U	270 U
Anthracene	ug/kg	27 J	270 U	280 U	280 U	270 U
Benzo(a)anthracene	ug/kg	160 J	270 U	280 U	280 U	270 U
Benzo(a)pyrene	ug/kg	150 J	270 U	280 U	280 U	270 U
Benzo(b)fluoranthene	ug/kg	220 J	270 U	280 U	280 U	270 U
Benzo(g,h,i)perylene	ug/kg	110 J	270 U	280 U	280 U	270 U
Benzo(k)fluoranthene	ug/kg	96 J	270 U	280 U	280 U	270 U
Chrysene	ug/kg	170 J	270 U	280 U	280 U	270 U
Dibenz(a,h)anthracene	ug/kg	27 J	270 U	280 U	280 U	270 U
Fluoranthene	ug/kg	310	270 U	280 U	280 U	270 U
Fluorene	ug/kg	290 U	270 U	280 U	280 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	98 J	270 U	280 U	280 U	270 U
Naphthalene	ug/kg	290 U	270 U	280 U	280 U	270 U
Phenanthrene	ug/kg	98 J	270 U	280 U	280 U	270 U
Pyrene	ug/kg	260 J	270 U	280 U	280 U	270 U

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB115-11	SB115-11	SB116-11	SB116-11	SB116-11
Sample Identification		SO-17360-022311-DR-124	SO-17360-022311-DR-125	SO-17360-030311-DR-163	SO-17360-030311-DR-164	SO-17360-030311-DR-165
Sample Date		2/23/2011	2/23/2011	3/3/2011	3/3/2011	3/3/2011
Sample Type					Duplicate	
Sample Depth		(2-4) ft BGS	(20-22) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(16-18) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 33	AOI 33	AOI 33	AOI 33	AOI 33
Metals						
Antimony	ug/kg	170 UJ	170 UJ	170 UJ	170 UJ	160 UJ
Arsenic	ug/kg	1400 J	650 J	1500 J	1600 J	640 J
Barium	ug/kg	9100	2900	13600	12600	2300
Beryllium	ug/kg	170 U	170 U	170 U	170 U	160 U
Cadmium	ug/kg	87 U	83 U	85 U	84 U	82 U
Chromium	ug/kg	3800	2000	6900	5600	2000
Cobalt	ug/kg	1700	880	2600	2800	860
Copper	ug/kg	5000	1400	4900	4700	1300
Lead	ug/kg	4500	950	2300	2400	740
Manganese	ug/kg	144000	58400	131000 J	138000 J	52000 J
Mercury	ug/kg	43 U	41 U	43 U	42 U	41 U
Nickel	ug/kg	4400	2000	5900	5700	1800
Selenium	ug/kg	150 J	100 J	130 J	150 J	160 UJ
Silver	ug/kg	27 J	83 U	85 U	84 U	82 U
Thallium	ug/kg	87 U	83 U	85 U	84 U	82 U
Vanadium	ug/kg	8200	2300	9700	10400	2800
Zinc	ug/kg	9700	4300	10700	11300	5000
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	290 U	270 U	280 U	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	290 U	270 U	280 U	280 U	270 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB117-11	SB117-11	SB118-11	SB118-11	SB119-11
Sample Identification		SO-17360-021711-DR-077	SO-17360-021711-DR-078	SO-17360-030411-DR-182	SO-17360-030411-DR-183	SO-17360-030211-DR-157
Sample Date		2/17/2011	2/17/2011	3/4/2011	3/4/2011	3/2/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 33	AOI 33	AOI 33	AOI 33	AOI 33
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,1,2,2-Tetrachloroethane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,1,2-Trichloroethane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,1-Dichloroethane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,1-Dichloroethene	ug/kg	44 U	46 U	46 U	47 U	39 U
1,2,4-Trichlorobenzene	ug/kg	220 U	230 U	230 U	230 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	230 U	230 U	230 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	230 U	230 U	230 U	200 U
1,2-Dichlorobenzene	ug/kg	88 U	93 U	92 U	93 U	78 U
1,2-Dichloroethane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,2-Dichloropropane	ug/kg	44 U	46 U	46 U	47 U	39 U
1,3-Dichlorobenzene	ug/kg	88 U	93 U	92 U	93 U	78 U
1,4-Dichlorobenzene	ug/kg	88 U	93 U	92 U	93 U	78 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	660 U	690 U	690 U	100 J	590 U
2-Hexanone	ug/kg	2200 U	2300 U	2300 U	2300 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2300 U	2300 U	2300 U	2000 U
Acetone	ug/kg	660 U	690 U	690 U	700 U	170 J
Benzene	ug/kg	44 U	46 U	46 U	47 U	39 U
Bromodichloromethane	ug/kg	88 U	93 U	92 U	93 U	78 U
Bromoform	ug/kg	88 U	93 U	92 U	93 U	78 U
Bromomethane (Methyl bromide)	ug/kg	220 U	230 U	230 U	230 U	200 U
Carbon disulfide	ug/kg	220 U	230 U	230 U	230 U	200 U
Carbon tetrachloride	ug/kg	44 U	46 U	46 U	47 U	39 U
Chlorobenzene	ug/kg	44 U	46 U	46 U	47 U	39 U
Chloroethane	ug/kg	220 U	230 U	230 U	230 U	200 U
Chloroform (Trichloromethane)	ug/kg	44 U	46 U	46 U	47 U	39 U
Chloromethane (Methyl chloride)	ug/kg	220 U	230 U	230 U	230 U	200 U
cis-1,2-Dichloroethene	ug/kg	44 U	46 U	46 U	47 U	39 U
cis-1,3-Dichloropropene	ug/kg	44 U	46 U	46 U	47 U	39 U
Cyclohexane	ug/kg	1100 U	1100 U	1100 U	1100 U	940 U
Dibromochloromethane	ug/kg	44 U	46 U	46 U	47 U	39 U
Dichlorodifluoromethane (CFC-12)	ug/kg	88 U	93 U	92 U	93 U	78 U
Ethylbenzene	ug/kg	44 U	46 U	46 U	47 U	39 U

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB117-11**	**SB117-11**	**SB118-11**	**SB118-11**	**SB119-11**
Sample Identification		**SO-17360-021711-DR-077**	**SO-17360-021711-DR-078**	**SO-17360-030411-DR-182**	**SO-17360-030411-DR-183**	**SO-17360-030211-DR-157**
Sample Date		**2/17/2011**	**2/17/2011**	**3/4/2011**	**3/4/2011**	**3/2/2011**
Sample Type						
Sample Depth		**(1-3) ft BGS**	**(18-20) ft BGS**	**(0-2) ft BGS**	**(12.5-14.5) ft BGS**	**(0.5-2.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 33**	**AOI 33**	**AOI 33**	**AOI 33**	**AOI 33**
Isopropyl benzene	ug/kg	220 U	230 U	230 U	230 U	200 U
Methyl acetate	ug/kg	1100 U	1100 U	1100 U	1100 U	940 U
Methyl cyclohexane	ug/kg	1100 U	1100 U	1100 U	1100 U	940 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	230 U	230 U	230 U	200 U
Methylene chloride	ug/kg	220 U	230 U	230 U	230 U	200 U
Styrene	ug/kg	44 U	46 U	46 U	47 U	39 U
Tetrachloroethene	ug/kg	44 U	46 U	46 U	47 U	72
Toluene	ug/kg	88 U	93 U	92 U	93 U	78 U
trans-1,2-Dichloroethene	ug/kg	44 U	46 U	46 U	47 U	39 U
trans-1,3-Dichloropropene	ug/kg	44 U	46 U	46 U	47 U	39 U
Trichloroethene	ug/kg	44 U	46 U	46 U	47 U	39 U
Trichlorofluoromethane (CFC-11)	ug/kg	88 U	93 U	92 U	93 U	78 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	230 U	230 U	230 U	200 U
Vinyl chloride	ug/kg	35 U	37 U	37 U	37 U	31 U
Xylenes (total)	ug/kg	130 U	140 U	140 U	140 U	120 U
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	270 U	270 U	280 U	270 U	280 U
Acenaphthene	ug/kg	270 U	270 U	280 U	270 U	280 U
Acenaphthylene	ug/kg	270 U	270 U	8.8 J	270 U	280 U
Anthracene	ug/kg	270 U	270 U	20 J	270 U	280 U
Benzo(a)anthracene	ug/kg	270 U	270 U	110 J	270 U	37 J
Benzo(a)pyrene	ug/kg	270 U	270 U	150 J	270 U	47 J
Benzo(b)fluoranthene	ug/kg	270 U	270 U	250 J	270 U	69 J
Benzo(g,h,i)perylene	ug/kg	270 U	270 U	170 J	270 U	49 J
Benzo(k)fluoranthene	ug/kg	270 U	270 U	93 J	270 U	30 J
Chrysene	ug/kg	270 U	270 U	150 J	270 U	52 J
Dibenz(a,h)anthracene	ug/kg	270 U	270 U	31 J	270 U	280 U
Fluoranthene	ug/kg	270 U	270 U	200 J	270 U	77 J
Fluorene	ug/kg	270 U	270 U	280 U	270 U	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U	270 U	120 J	270 U	37 J
Naphthalene	ug/kg	270 U	270 U	280 U	270 U	280 U
Phenanthrene	ug/kg	270 U	270 U	49 J	270 U	24 J
Pyrene	ug/kg	270 U	270 U	180 J	270 U	61 J

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB117-11	SB117-11	SB118-11	SB118-11	SB119-11
Sample Identification		SO-17360-021711-DR-077	SO-17360-021711-DR-078	SO-17360-030411-DR-182	SO-17360-030411-DR-183	SO-17360-030211-DR-157
Sample Date		2/17/2011	2/17/2011	3/4/2011	3/4/2011	3/2/2011
Sample Type						
Sample Depth		(1-3) ft BGS	(18-20) ft BGS	(0-2) ft BGS	(12.5-14.5) ft BGS	(0.5-2.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 33	AOI 33	AOI 33	AOI 33	AOI 33
Metals						
Antimony	ug/kg	170 UJ	170 UJ	120 J	170 UJ	170 UJ
Arsenic	ug/kg	1000	1300	1500 J	1000 J	970 J
Barium	ug/kg	8700	4600	18900	3600	13800
Beryllium	ug/kg	170 U	170 U	170 U	170 U	170 U
Cadmium	ug/kg	83 U	83 U	390	83 U	85 U
Chromium	ug/kg	2900	5400	11200	2600	3900
Cobalt	ug/kg	1200	2000	3100	1300	1600
Copper	ug/kg	2100 J	4100 J	21800	2600	3600
Lead	ug/kg	2000	1700	16500	1100	5400
Manganese	ug/kg	69500 J	112000 J	249000 J	70600 J	79000 J
Mercury	ug/kg	41 U	41 U	42 U	42 U	42 U
Nickel	ug/kg	2500	4100	7300	2700	3400
Selenium	ug/kg	120 J	170	140 J	170 UJ	110 J
Silver	ug/kg	83 U	83 U	84 U	83 U	85 U
Thallium	ug/kg	83 U	83 U	84 U	83 U	85 U
Vanadium	ug/kg	4600	5300	10000	4000	5700
Zinc	ug/kg	6500	7200	52700	5700	9100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	280 U	270 U	280 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	280 U	270 U	280 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB119-11**
Sample Identification		**SO-17360-030211-DR-158**
Sample Date		**3/2/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 33**
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	ug/kg	43 U
1,1,2,2-Tetrachloroethane	ug/kg	43 U
1,1,2-Trichloroethane	ug/kg	43 U
1,1-Dichloroethane	ug/kg	43 U
1,1-Dichloroethene	ug/kg	43 U
1,2,4-Trichlorobenzene	ug/kg	220 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U
1,2-Dichlorobenzene	ug/kg	87 U
1,2-Dichloroethane	ug/kg	43 U
1,2-Dichloropropane	ug/kg	43 U
1,3-Dichlorobenzene	ug/kg	87 U
1,4-Dichlorobenzene	ug/kg	87 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	650 U
2-Hexanone	ug/kg	2200 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U
Acetone	ug/kg	200 J
Benzene	ug/kg	43 U
Bromodichloromethane	ug/kg	87 U
Bromoform	ug/kg	87 U
Bromomethane (Methyl bromide)	ug/kg	220 U
Carbon disulfide	ug/kg	220 U
Carbon tetrachloride	ug/kg	43 U
Chlorobenzene	ug/kg	43 U
Chloroethane	ug/kg	220 U
Chloroform (Trichloromethane)	ug/kg	43 U
Chloromethane (Methyl chloride)	ug/kg	220 U
cis-1,2-Dichloroethene	ug/kg	43 U
cis-1,3-Dichloropropene	ug/kg	43 U
Cyclohexane	ug/kg	1000 U
Dibromochloromethane	ug/kg	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	87 U
Ethylbenzene	ug/kg	43 U

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB119-11**
Sample Identification		**SO-17360-030211-DR-158**
Sample Date		**3/2/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 33**
Isopropyl benzene	ug/kg	220 U
Methyl acetate	ug/kg	1000 U
Methyl cyclohexane	ug/kg	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U
Methylene chloride	ug/kg	220 U
Styrene	ug/kg	43 U
Tetrachloroethene	ug/kg	24 J
Toluene	ug/kg	87 U
trans-1,2-Dichloroethene	ug/kg	43 U
trans-1,3-Dichloropropene	ug/kg	43 U
Trichloroethene	ug/kg	43 U
Trichlorofluoromethane (CFC-11)	ug/kg	87 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U
Vinyl chloride	ug/kg	35 U
Xylenes (total)	ug/kg	130 U
Semi-Volatile Organic Compounds (SVOCs)		
2-Methylnaphthalene	ug/kg	280 U
Acenaphthene	ug/kg	280 U
Acenaphthylene	ug/kg	280 U
Anthracene	ug/kg	280 U
Benzo(a)anthracene	ug/kg	280 U
Benzo(a)pyrene	ug/kg	280 U
Benzo(b)fluoranthene	ug/kg	280 U
Benzo(g,h,i)perylene	ug/kg	280 U
Benzo(k)fluoranthene	ug/kg	280 U
Chrysene	ug/kg	280 U
Dibenz(a,h)anthracene	ug/kg	280 U
Fluoranthene	ug/kg	280 U
Fluorene	ug/kg	280 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U
Naphthalene	ug/kg	280 U
Phenanthrene	ug/kg	280 U
Pyrene	ug/kg	280 U

Table 3.37

Soil Sample Analytical Results - AOI 33 – Railroad Track Operations
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB119-11**
Sample Identification		**SO-17360-030211-DR-158**
Sample Date		**3/2/2011**
Sample Type		
Sample Depth		**(12-14) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 33**
Metals		
Antimony	ug/kg	170 UJ
Arsenic	ug/kg	1400 J
Barium	ug/kg	5100
Beryllium	ug/kg	170 U
Cadmium	ug/kg	84 U
Chromium	ug/kg	5000
Cobalt	ug/kg	2100
Copper	ug/kg	5000
Lead	ug/kg	2100
Manganese	ug/kg	113000 J
Mercury	ug/kg	42 U
Nickel	ug/kg	4800
Selenium	ug/kg	110 J
Silver	ug/kg	84 U
Thallium	ug/kg	84 U
Vanadium	ug/kg	6500
Zinc	ug/kg	9000
Polychlorinated biphenyl (PCBs)		
Aroclor-1016 (PCB-1016)	ug/kg	280 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U
Total PCBs	ug/kg	0

Table 3.40

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB120-11	SB121-11	SB121-11	SB121-11	SB122-11
Sample Identification		SO-17360-021711-DR-079	SO-17360-022111-DR-098	SO-17360-022111-DR-099	SO-17360-022111-DR-100	SO-17360-022211-DR-107
Sample Date		2/17/2011	2/21/2011	2/21/2011	2/21/2011	2/22/2011
Sample Type				Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(1-3) ft BGS	(17-19) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 36	AOI 36	AOI 36	AOI 36	AOI 36
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,1,2-Trichloroethane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,1-Dichloroethane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,1-Dichloroethene	ug/kg	45 U	48 U	43 U	40 U	45 U
1,2,4-Trichlorobenzene	ug/kg	220 U	240 U	210 U	200 U	230 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	220 U	240 U	210 U	200 U	230 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	220 U	240 U	210 U	200 U	230 U
1,2-Dichlorobenzene	ug/kg	89 U	97 U	85 U	81 U	90 U
1,2-Dichloroethane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,2-Dichloropropane	ug/kg	45 U	48 U	43 U	40 U	45 U
1,3-Dichlorobenzene	ug/kg	89 U	97 U	85 U	81 U	90 U
1,4-Dichlorobenzene	ug/kg	89 U	97 U	85 U	81 U	90 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	670 U	720 U	640 U	610 U	680 U
2-Hexanone	ug/kg	2200 U	2400 U	2100 U	2000 U	2300 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2200 U	2400 U	2100 U	2000 U	2300 U
Acetone	ug/kg	670 U	720 U	640 U	610 U	680 U
Benzene	ug/kg	45 U	48 U	43 U	40 U	45 U
Bromodichloromethane	ug/kg	89 U	97 U	85 U	81 U	90 U
Bromoform	ug/kg	89 U	97 U	85 U	81 U	90 U
Bromomethane (Methyl bromide)	ug/kg	220 U	240 U	210 U	200 U	230 UJ
Carbon disulfide	ug/kg	220 U	240 U	210 U	200 U	230 U
Carbon tetrachloride	ug/kg	45 U	48 U	43 U	40 U	45 U
Chlorobenzene	ug/kg	45 U	48 U	43 U	40 U	45 U
Chloroethane	ug/kg	220 U	240 U	210 U	200 U	230 U
Chloroform (Trichloromethane)	ug/kg	45 U	48 U	43 U	40 U	45 U
Chloromethane (Methyl chloride)	ug/kg	220 U	240 U	210 U	200 U	230 UJ
cis-1,2-Dichloroethene	ug/kg	45 U	48 U	43 U	40 U	45 U
cis-1,3-Dichloropropene	ug/kg	45 U	48 U	43 U	40 U	45 U
Cyclohexane	ug/kg	1100 U	1200 U	1000 U	970 U	1100 U
Dibromochloromethane	ug/kg	45 U	48 U	43 U	40 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	89 U	97 U	85 U	81 U	90 U
Ethylbenzene	ug/kg	45 U	11 J	43 U	40 U	45 U

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB120-11	SB121-11	SB121-11	SB121-11	SB122-11
Sample Identification		SO-17360-021711-DR-079	SO-17360-022111-DR-098	SO-17360-022111-DR-099	SO-17360-022111-DR-100	SO-17360-022211-DR-107
Sample Date		2/17/2011	2/21/2011	2/21/2011	2/21/2011	2/22/2011
Sample Type				Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(1-3) ft BGS	(17-19) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 36	AOI 36	AOI 36	AOI 36	AOI 36
Isopropyl benzene	ug/kg	220 U	240 U	210 U	200 U	230 U
Methyl acetate	ug/kg	1100 U	1200 U	220 J	970 U	1100 U
Methyl cyclohexane	ug/kg	1100 U	1200 U	1000 U	970 U	1100 U
Methyl tert butyl ether (MTBE)	ug/kg	220 U	240 U	210 U	200 U	230 U
Methylene chloride	ug/kg	220 U	240 U	210 U	200 U	230 U
Styrene	ug/kg	45 U	48 U	43 U	40 U	45 U
Tetrachloroethene	ug/kg	45 U	48 U	43 U	40 U	45 U
Toluene	ug/kg	25 J	41 J	85 U	81 U	90 U
trans-1,2-Dichloroethene	ug/kg	45 U	48 U	43 U	40 U	45 U
trans-1,3-Dichloropropene	ug/kg	45 U	48 U	43 U	40 U	45 U
Trichloroethene	ug/kg	45 U	48 U	10 J	40 U	45 U
Trichlorofluoromethane (CFC-11)	ug/kg	89 U	97 U	85 U	81 U	90 U
Trifluorotrichloroethane (Freon 113)	ug/kg	220 U	240 U	210 U	200 U	230 U
Vinyl chloride	ug/kg	36 U	39 U	34 U	32 U	36 U
Xylenes (total)	ug/kg	130 U	67 J	33 J	120 U	34 J
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	ug/kg	31 J	160 J	240 J	270 U	17 J
Acenaphthene	ug/kg	270 U	270 U	8.6 J	270 U	270 U
Acenaphthylene	ug/kg	270 U	270 U	270 U	270 U	270 U
Anthracene	ug/kg	14 J	270 U	270 U	270 U	270 U
Benzo(a)anthracene	ug/kg	110 J	8.0 J	7.5 J	270 U	23 J
Benzo(a)pyrene	ug/kg	110 J	270 U	270 U	270 U	20 J
Benzo(b)fluoranthene	ug/kg	150 J	9.2 J	9.3 J	270 U	34 J
Benzo(g,h,i)perylene	ug/kg	72 J	270 U	270 U	270 U	270 U
Benzo(k)fluoranthene	ug/kg	72 J	270 U	270 U	270 U	17 J
Chrysene	ug/kg	130 J	9.5 J	13 J	270 U	28 J
Dibenz(a,h)anthracene	ug/kg	21 J	270 U	270 U	270 U	270 U
Fluoranthene	ug/kg	230 J	22 J	31 J	270 U	49 J
Fluorene	ug/kg	270 U	270 U	270 U	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	61 J	270 U	270 U	270 U	270 U
Naphthalene	ug/kg	18 J	38 J	45 J	270 U	9.6 J
Phenanthrene	ug/kg	110 J	34 J	44 J	270 U	31 J
Pyrene	ug/kg	180 J	17 J	23 J	270 U	36 J

Table 3.40

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB120-11	SB121-11	SB121-11	SB121-11	SB122-11
Sample Identification		SO-17360-021711-DR-079	SO-17360-022111-DR-098	SO-17360-022111-DR-099	SO-17360-022111-DR-100	SO-17360-022211-DR-107
Sample Date		2/17/2011	2/21/2011	2/21/2011	2/21/2011	2/22/2011
Sample Type				Duplicate		
Sample Depth		(1-3) ft BGS	(1-3) ft BGS	(1-3) ft BGS	(17-19) ft BGS	(1-3) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 36	AOI 36	AOI 36	AOI 36	AOI 36
Metals						
Antimony	ug/kg	40 J	48 J	160 UJ	160 UJ	170 UJ
Arsenic	ug/kg	2000	1800	1500	1400	2400
Barium	ug/kg	18100	10000	9500	4500	11700
Beryllium	ug/kg	170 U	160 U	160 U	160 U	170 U
Cadmium	ug/kg	83 U	82 U	82 U	82 U	83 U
Chromium	ug/kg	5600	6900	5600	6200	5800
Cobalt	ug/kg	2600	2400	2000	2300	2200
Copper	ug/kg	8100 J	5700	4100	4100	5900
Lead	ug/kg	5900	3200	2600	1700	3300
Manganese	ug/kg	138000 J	124000	111000	106000	137000
Mercury	ug/kg	41 U	41 U	41 U	41 U	41 U
Nickel	ug/kg	5500	6400	4700	5500	5000
Selenium	ug/kg	210	240 J	200 J	160 J	210 J
Silver	ug/kg	83 U	82 U	82 U	82 U	83 U
Thallium	ug/kg	83 U	82 U	82 U	82 U	83 U
Vanadium	ug/kg	8700	7800	7600	6000	7400
Zinc	ug/kg	15400	12000	10600	7500	10600
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U	270 U	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U	270 U	270 U	270 U
Total PCBs	ug/kg	0	0	0	0	0

Table 3.40

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB122-11**
Sample Identification		**SO-17360-022211-DR-108**
Sample Date		**2/22/2011**
Sample Type		
Sample Depth		**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 36**
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	ug/kg	42 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U
1,1,2-Trichloroethane	ug/kg	42 U
1,1-Dichloroethane	ug/kg	42 U
1,1-Dichloroethene	ug/kg	42 U
1,2,4-Trichlorobenzene	ug/kg	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	210 U
1,2-Dichlorobenzene	ug/kg	84 U
1,2-Dichloroethane	ug/kg	42 U
1,2-Dichloropropane	ug/kg	42 U
1,3-Dichlorobenzene	ug/kg	84 U
1,4-Dichlorobenzene	ug/kg	84 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	630 U
2-Hexanone	ug/kg	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2100 U
Acetone	ug/kg	630 U
Benzene	ug/kg	42 U
Bromodichloromethane	ug/kg	84 U
Bromoform	ug/kg	84 U
Bromomethane (Methyl bromide)	ug/kg	210 UJ
Carbon disulfide	ug/kg	210 U
Carbon tetrachloride	ug/kg	42 U
Chlorobenzene	ug/kg	42 U
Chloroethane	ug/kg	210 U
Chloroform (Trichloromethane)	ug/kg	42 U
Chloromethane (Methyl chloride)	ug/kg	210 UJ
cis-1,2-Dichloroethene	ug/kg	42 U
cis-1,3-Dichloropropene	ug/kg	42 U
Cyclohexane	ug/kg	1000 U
Dibromochloromethane	ug/kg	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	84 U
Ethylbenzene	ug/kg	42 U

Table 3.40

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB122-11**
Sample Identification		**SO-17360-022211-DR-108**
Sample Date		**2/22/2011**
Sample Type		
Sample Depth		**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 36**
Isopropyl benzene	ug/kg	210 U
Methyl acetate	ug/kg	1000 U
Methyl cyclohexane	ug/kg	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	210 U
Methylene chloride	ug/kg	210 U
Styrene	ug/kg	42 U
Tetrachloroethene	ug/kg	42 U
Toluene	ug/kg	84 U
trans-1,2-Dichloroethene	ug/kg	42 U
trans-1,3-Dichloropropene	ug/kg	42 U
Trichloroethene	ug/kg	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	84 U
Trifluorotrichloroethane (Freon 113)	ug/kg	210 U
Vinyl chloride	ug/kg	33 U
Xylenes (total)	ug/kg	130 U
Semi-Volatile Organic Compounds (SVOCs)		
2-Methylnaphthalene	ug/kg	270 U
Acenaphthene	ug/kg	270 U
Acenaphthylene	ug/kg	270 U
Anthracene	ug/kg	270 U
Benzo(a)anthracene	ug/kg	270 U
Benzo(a)pyrene	ug/kg	270 U
Benzo(b)fluoranthene	ug/kg	270 U
Benzo(g,h,i)perylene	ug/kg	270 U
Benzo(k)fluoranthene	ug/kg	270 U
Chrysene	ug/kg	270 U
Dibenz(a,h)anthracene	ug/kg	270 U
Fluoranthene	ug/kg	270 U
Fluorene	ug/kg	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	270 U
Naphthalene	ug/kg	270 U
Phenanthrene	ug/kg	270 U
Pyrene	ug/kg	270 U

Table 3.40

Soil Sample Analytical Results - AOI 36 – Potential On-Site Fill Activities
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB122-11**
Sample Identification		**SO-17360-022211-DR-108**
Sample Date		**2/22/2011**
Sample Type		
Sample Depth		**(17-19) ft BGS**
Excavation Status	**Units**	**Unexcavated**
AOI		**AOI 36**
Metals		
Antimony	ug/kg	160 UJ
Arsenic	ug/kg	1400
Barium	ug/kg	5200
Beryllium	ug/kg	160 U
Cadmium	ug/kg	81 U
Chromium	ug/kg	4400
Cobalt	ug/kg	2200
Copper	ug/kg	3800
Lead	ug/kg	2100
Manganese	ug/kg	107000
Mercury	ug/kg	41 U
Nickel	ug/kg	4100
Selenium	ug/kg	150 J
Silver	ug/kg	81 U
Thallium	ug/kg	81 U
Vanadium	ug/kg	5700
Zinc	ug/kg	7700
Polychlorinated biphenyl (PCBs)		
Aroclor-1016 (PCB-1016)	ug/kg	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U
Total PCBs	ug/kg	0

Table 3.41.1

Soil Sample Analytical Results - AOI 37.1 – Former Hazardous Waste Storage Areas – Main Plant
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB124-11**	**SB124-11**
Sample Identification		**SO-17360-022111-DR-105**	**SO-17360-022111-DR-106**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**excavated**	**Unexcavated**
AOI		**AOI 37.1**	**AOI 37.1**
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	41 U	50 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	50 U
1,1,2-Trichloroethane	ug/kg	41 U	50 U
1,1-Dichloroethane	ug/kg	41 U	50 U
1,1-Dichloroethene	ug/kg	41 U	50 U
1,2,4-Trichlorobenzene	ug/kg	200 U	250 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	200 U	250 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	200 U	250 U
1,2-Dichlorobenzene	ug/kg	82 U	100 U
1,2-Dichloroethane	ug/kg	41 U	50 U
1,2-Dichloropropane	ug/kg	41 U	50 U
1,3-Dichlorobenzene	ug/kg	82 U	100 U
1,4-Dichlorobenzene	ug/kg	82 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	610 U	750 U
2-Hexanone	ug/kg	2000 U	2500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2000 U	2500 U
Acetone	ug/kg	610 U	750 U
Benzene	ug/kg	41 U	50 U
Bromodichloromethane	ug/kg	82 U	100 U
Bromoform	ug/kg	82 U	100 U
Bromomethane (Methyl bromide)	ug/kg	200 U	250 U
Carbon disulfide	ug/kg	200 U	250 U
Carbon tetrachloride	ug/kg	41 U	50 U
Chlorobenzene	ug/kg	41 U	50 U
Chloroethane	ug/kg	200 U	250 U
Chloroform (Trichloromethane)	ug/kg	41 U	50 U
Chloromethane (Methyl chloride)	ug/kg	200 U	250 U
cis-1,2-Dichloroethene	ug/kg	41 U	50 U
cis-1,3-Dichloropropene	ug/kg	41 U	50 U
Cyclohexane	ug/kg	980 U	1200 U
Dibromochloromethane	ug/kg	41 U	50 U
Dichlorodifluoromethane (CFC-12)	ug/kg	82 U	100 U
Ethylbenzene	ug/kg	41 U	50 U

Soil Sample Analytical Results - AOI 37.1 – Former Hazardous Waste Storage Areas – Main Plant
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB124-11**	**SB124-11**
Sample Identification		**SO-17360-022111-DR-105**	**SO-17360-022111-DR-106**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**excavated**	**Unexcavated**
AOI		**AOI 37.1**	**AOI 37.1**
Isopropyl benzene	ug/kg	200 U	250 U
Methyl acetate	ug/kg	63 J	1200 U
Methyl cyclohexane	ug/kg	980 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	200 U	250 U
Methylene chloride	ug/kg	200 U	250 U
Styrene	ug/kg	41 U	50 U
Tetrachloroethene	ug/kg	21 J	50 U
Toluene	ug/kg	82 U	100 U
trans-1,2-Dichloroethene	ug/kg	41 U	50 U
trans-1,3-Dichloropropene	ug/kg	41 U	50 U
Trichloroethene	ug/kg	53	50 U
Trichlorofluoromethane (CFC-11)	ug/kg	82 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	200 U	250 U
Vinyl chloride	ug/kg	33 U	40 U
Xylenes (total)	ug/kg	16 J	150 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	1300 U	270 U
Acenaphthene	ug/kg	1300 U	270 U
Acenaphthylene	ug/kg	1300 U	270 U
Anthracene	ug/kg	1300 U	270 U
Benzo(a)anthracene	ug/kg	1300 U	270 U
Benzo(a)pyrene	ug/kg	1300 U	270 U
Benzo(b)fluoranthene	ug/kg	1300 U	270 U
Benzo(g,h,i)perylene	ug/kg	130 J	270 U
Benzo(k)fluoranthene	ug/kg	1300 U	270 U
Chrysene	ug/kg	1300 U	270 U
Dibenz(a,h)anthracene	ug/kg	1300 U	270 U
Fluoranthene	ug/kg	46 J	270 U
Fluorene	ug/kg	1300 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	1300 U	270 U
Naphthalene	ug/kg	1300 U	270 U
Phenanthrene	ug/kg	1300 U	270 U
Pyrene	ug/kg	1300 U	270 U

Table 3.41.1

Soil Sample Analytical Results - AOI 37.1 – Former Hazardous Waste Storage Areas – Main Plant
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB124-11**	**SB124-11**
Sample Identification		**SO-17360-022111-DR-105**	**SO-17360-022111-DR-106**
Sample Date		**2/21/2011**	**2/21/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(17-19) ft BGS**
Excavation Status	**Units**	**excavated**	**Unexcavated**
AOI		**AOI 37.1**	**AOI 37.1**
Metals			
Antimony	ug/kg	160 UJ	160 UJ
Arsenic	ug/kg	2300	1000
Barium	ug/kg	8500	4400
Beryllium	ug/kg	160 U	160 U
Cadmium	ug/kg	82 U	82 U
Chromium	ug/kg	4200	3400
Cobalt	ug/kg	1700	1500
Copper	ug/kg	5400	4000
Lead	ug/kg	3100	1500
Manganese	ug/kg	156000	88600
Mercury	ug/kg	41 U	41 U
Nickel	ug/kg	3900	3500
Selenium	ug/kg	190 J	130 J
Silver	ug/kg	82 U	82 U
Thallium	ug/kg	82 U	82 U
Vanadium	ug/kg	5400	4000
Zinc	ug/kg	12600	6800
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	340 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	1300	270 U
Aroclor-1260 (PCB-1260)	ug/kg	340 U	270 U
Total PCBs	ug/kg	1300	0

Soil Sample Analytical Results - AOI 37.2 – Former Hazardous Waste Storage Areas – South of WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB125-11	SB125-11
Sample Identification		SO-17360-030311-DR-168	SO-17360-030311-DR-169
Sample Date		3/3/2011	3/3/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 37.2	AOI 37.2
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	50 U	49 U
1,1,2,2-Tetrachloroethane	ug/kg	50 U	49 U
1,1,2-Trichloroethane	ug/kg	50 U	49 U
1,1-Dichloroethane	ug/kg	50 U	49 U
1,1-Dichloroethene	ug/kg	50 U	49 U
1,2,4-Trichlorobenzene	ug/kg	250 U	250 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	250 U	250 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	250 U	250 U
1,2-Dichlorobenzene	ug/kg	100 U	99 U
1,2-Dichloroethane	ug/kg	50 U	49 U
1,2-Dichloropropane	ug/kg	50 U	49 U
1,3-Dichlorobenzene	ug/kg	100 U	99 U
1,4-Dichlorobenzene	ug/kg	100 U	99 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	750 U	740 U
2-Hexanone	ug/kg	2500 U	2500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2500 U	2500 U
Acetone	ug/kg	750 U	740 U
Benzene	ug/kg	50 U	49 U
Bromodichloromethane	ug/kg	100 U	99 U
Bromoform	ug/kg	100 U	99 U
Bromomethane (Methyl bromide)	ug/kg	250 U	250 U
Carbon disulfide	ug/kg	250 U	250 U
Carbon tetrachloride	ug/kg	50 U	49 U
Chlorobenzene	ug/kg	50 U	49 U
Chloroethane	ug/kg	250 U	250 U
Chloroform (Trichloromethane)	ug/kg	50 U	49 U
Chloromethane (Methyl chloride)	ug/kg	250 U	250 U
cis-1,2-Dichloroethene	ug/kg	50 U	49 U
cis-1,3-Dichloropropene	ug/kg	50 U	49 U
Cyclohexane	ug/kg	1200 U	1200 U
Dibromochloromethane	ug/kg	50 U	49 U
Dichlorodifluoromethane (CFC-12)	ug/kg	100 U	99 U
Ethylbenzene	ug/kg	50 U	49 U

Soil Sample Analytical Results - AOI 37.2 – Former Hazardous Waste Storage Areas – South of WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB125-11**	**SB125-11**
Sample Identification		**SO-17360-030311-DR-168**	**SO-17360-030311-DR-169**
Sample Date		**3/3/2011**	**3/3/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(13-15) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 37.2**	**AOI 37.2**
Isopropyl benzene	ug/kg	250 U	250 U
Methyl acetate	ug/kg	1200 U	1200 U
Methyl cyclohexane	ug/kg	1200 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	250 U	250 U
Methylene chloride	ug/kg	250 U	250 U
Styrene	ug/kg	50 U	49 U
Tetrachloroethene	ug/kg	50 U	49 U
Toluene	ug/kg	100 U	99 U
trans-1,2-Dichloroethene	ug/kg	50 U	49 U
trans-1,3-Dichloropropene	ug/kg	50 U	49 U
Trichloroethene	ug/kg	50 U	49 U
Trichlorofluoromethane (CFC-11)	ug/kg	100 U	99 U
Trifluorotrichloroethane (Freon 113)	ug/kg	250 U	250 U
Vinyl chloride	ug/kg	40 U	39 U
Xylenes (total)	ug/kg	150 U	150 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	280 U	270 U
Acenaphthene	ug/kg	280 U	270 U
Acenaphthylene	ug/kg	280 U	270 U
Anthracene	ug/kg	280 U	270 U
Benzo(a)anthracene	ug/kg	280 U	270 U
Benzo(a)pyrene	ug/kg	280 U	270 U
Benzo(b)fluoranthene	ug/kg	280 U	270 U
Benzo(g,h,i)perylene	ug/kg	280 U	270 U
Benzo(k)fluoranthene	ug/kg	280 U	270 U
Chrysene	ug/kg	280 U	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U
Fluoranthene	ug/kg	280 U	270 U
Fluorene	ug/kg	280 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	280 U	270 U
Naphthalene	ug/kg	280 U	270 U
Phenanthrene	ug/kg	280 U	270 U
Pyrene	ug/kg	280 U	270 U

Table 3.41.2

Soil Sample Analytical Results - AOI 37.2 – Former Hazardous Waste Storage Areas – South of WWTP
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB125-11	SB125-11
Sample Identification		SO-17360-030311-DR-168	SO-17360-030311-DR-169
Sample Date		3/3/2011	3/3/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(13-15) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 37.2	AOI 37.2
Metals			
Antimony	ug/kg	170 UJ	160 UJ
Arsenic	ug/kg	1100 J	2200 J
Barium	ug/kg	16200	8800
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	85 U	82 U
Chromium	ug/kg	7800	3100
Cobalt	ug/kg	2500	3300
Copper	ug/kg	2700	10800
Lead	ug/kg	2300	1900
Manganese	ug/kg	67200 J	189000 J
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	5500	4600
Selenium	ug/kg	110 J	160 UJ
Silver	ug/kg	85 U	82 U
Thallium	ug/kg	85 U	82 U
Vanadium	ug/kg	10000	11900
Zinc	ug/kg	9300	14200
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U
Total PCBs	ug/kg	0	0

Table 3.41.3

Soil Sample Analytical Results - AOI 37.3 – Former Hazardous Waste Storage Areas – Western Property Boundary
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB126-11	SB126-11
Sample Identification		SO-17360-030411-DR-180	SO-17360-030411-DR-181
Sample Date		3/4/2011	3/4/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(12.5-14.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 37.3	AOI 37.3
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	48 U	41 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	41 U
1,1,2-Trichloroethane	ug/kg	48 U	41 U
1,1-Dichloroethane	ug/kg	48 U	41 U
1,1-Dichloroethene	ug/kg	48 U	41 U
1,2,4-Trichlorobenzene	ug/kg	240 U	200 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	200 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	240 U	200 U
1,2-Dichlorobenzene	ug/kg	97 U	81 U
1,2-Dichloroethane	ug/kg	48 U	41 U
1,2-Dichloropropane	ug/kg	48 U	41 U
1,3-Dichlorobenzene	ug/kg	97 U	81 U
1,4-Dichlorobenzene	ug/kg	97 U	81 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	310 J	610 U
2-Hexanone	ug/kg	2400 U	2000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	2000 U
Acetone	ug/kg	720 U	610 U
Benzene	ug/kg	**1300**[bc]	41 U
Bromodichloromethane	ug/kg	97 U	81 U
Bromoform	ug/kg	97 U	81 U
Bromomethane (Methyl bromide)	ug/kg	240 U	200 U
Carbon disulfide	ug/kg	240 U	200 U
Carbon tetrachloride	ug/kg	48 U	41 U
Chlorobenzene	ug/kg	48 U	41 U
Chloroethane	ug/kg	240 U	200 U
Chloroform (Trichloromethane)	ug/kg	48 U	41 U
Chloromethane (Methyl chloride)	ug/kg	240 U	200 U
cis-1,2-Dichloroethene	ug/kg	48 U	41 U
cis-1,3-Dichloropropene	ug/kg	48 U	41 U
Cyclohexane	ug/kg	660 J	980 U
Dibromochloromethane	ug/kg	48 U	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	97 U	81 U
Ethylbenzene	ug/kg	**970**[d]	41 U

Soil Sample Analytical Results - AOI 37.3 – Former Hazardous Waste Storage Areas – Western Property Boundary
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB126-11**	**SB126-11**
Sample Identification		**SO-17360-030411-DR-180**	**SO-17360-030411-DR-181**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(12.5-14.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 37.3**	**AOI 37.3**
Isopropyl benzene	ug/kg	440	200 U
Methyl acetate	ug/kg	150 J	980 U
Methyl cyclohexane	ug/kg	2000	43 J
Methyl tert butyl ether (MTBE)	ug/kg	240 U	200 U
Methylene chloride	ug/kg	240 U	200 U
Styrene	ug/kg	48 U	41 U
Tetrachloroethene	ug/kg	48 U	41 U
Toluene	ug/kg	5100	81 U
trans-1,2-Dichloroethene	ug/kg	48 U	41 U
trans-1,3-Dichloropropene	ug/kg	48 U	41 U
Trichloroethene	ug/kg	48 U	41 U
Trichlorofluoromethane (CFC-11)	ug/kg	97 U	81 U
Trifluorotrichloroethane (Freon 113)	ug/kg	240 U	200 U
Vinyl chloride	ug/kg	39 U	33 U
Xylenes (total)	ug/kg	**3900**[d]	120 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	210 J	270 U
Acenaphthene	ug/kg	270 U	270 U
Acenaphthylene	ug/kg	270 U	270 U
Anthracene	ug/kg	270 U	270 U
Benzo(a)anthracene	ug/kg	33 J	270 U
Benzo(a)pyrene	ug/kg	38 J	270 U
Benzo(b)fluoranthene	ug/kg	82 J	270 U
Benzo(g,h,i)perylene	ug/kg	34 J	270 U
Benzo(k)fluoranthene	ug/kg	22 J	270 U
Chrysene	ug/kg	54 J	270 U
Dibenz(a,h)anthracene	ug/kg	8.9 J	270 U
Fluoranthene	ug/kg	50 J	270 U
Fluorene	ug/kg	270 U	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	28 J	270 U
Naphthalene	ug/kg	120 J	270 U
Phenanthrene	ug/kg	82 J	270 U
Pyrene	ug/kg	50 J	270 U

Table 3.41.3

Soil Sample Analytical Results - AOI 37.3 – Former Hazardous Waste Storage Areas – Western Property Boundary
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB126-11**	**SB126-11**
Sample Identification		**SO-17360-030411-DR-180**	**SO-17360-030411-DR-181**
Sample Date		**3/4/2011**	**3/4/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(12.5-14.5) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 37.3**	**AOI 37.3**
Metals			
Antimony	ug/kg	36 J	160 UJ
Arsenic	ug/kg	1500 J	1400 J
Barium	ug/kg	7700	6500
Beryllium	ug/kg	170 U	160 U
Cadmium	ug/kg	83 U	82 U
Chromium	ug/kg	3100	10800
Cobalt	ug/kg	1700	3100
Copper	ug/kg	4600	5200
Lead	ug/kg	4000	1800
Manganese	ug/kg	70800 J	168000 J
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	3300	10300
Selenium	ug/kg	120 J	100 J
Silver	ug/kg	83 U	82 U
Thallium	ug/kg	83 U	82 U
Vanadium	ug/kg	5300	6900
Zinc	ug/kg	14300	8500
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	270 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	270 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	270 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	270 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	270 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	270 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	270 U	270 U
Total PCBs	ug/kg	0	0

Table 3.42.1

Soil Sample Analytical Results - AOI 38.1 – Former Switch House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB127-11	SB127-11
Sample Identification		SO-17360-021511-DR-056	SO-17360-021511-DR-057
Sample Date		2/15/2011	2/15/2011
Sample Type			
Sample Depth		(1-3) ft BGS	(20-22) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated
AOI		AOI 38.1	AOI 38.1
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/kg	78 U	50 U
1,1,2,2-Tetrachloroethane	ug/kg	78 U	50 U
1,1,2-Trichloroethane	ug/kg	78 U	50 U
1,1-Dichloroethane	ug/kg	78 U	50 U
1,1-Dichloroethene	ug/kg	78 U	50 U
1,2,4-Trichlorobenzene	ug/kg	390 U	250 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	390 U	250 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	390 U	250 U
1,2-Dichlorobenzene	ug/kg	160 U	100 U
1,2-Dichloroethane	ug/kg	78 U	50 U
1,2-Dichloropropane	ug/kg	78 U	50 U
1,3-Dichlorobenzene	ug/kg	160 U	100 U
1,4-Dichlorobenzene	ug/kg	160 U	100 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1200 U	750 U
2-Hexanone	ug/kg	3900 U	2500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	3900 U	2500 U
Acetone	ug/kg	1200 U	750 U
Benzene	ug/kg	78 U	50 U
Bromodichloromethane	ug/kg	160 U	100 U
Bromoform	ug/kg	160 U	100 U
Bromomethane (Methyl bromide)	ug/kg	390 U	250 U
Carbon disulfide	ug/kg	390 U	250 U
Carbon tetrachloride	ug/kg	78 U	50 U
Chlorobenzene	ug/kg	78 U	50 U
Chloroethane	ug/kg	390 U	250 U
Chloroform (Trichloromethane)	ug/kg	78 U	50 U
Chloromethane (Methyl chloride)	ug/kg	390 U	250 U
cis-1,2-Dichloroethene	ug/kg	78 U	50 U
cis-1,3-Dichloropropene	ug/kg	78 U	50 U
Cyclohexane	ug/kg	1900 U	1200 U
Dibromochloromethane	ug/kg	78 U	50 U
Dichlorodifluoromethane (CFC-12)	ug/kg	210	100 U
Ethylbenzene	ug/kg	78 U	50 U

Soil Sample Analytical Results - AOI 38.1 – Former Switch House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB127-11**	**SB127-11**
Sample Identification		**SO-17360-021511-DR-056**	**SO-17360-021511-DR-057**
Sample Date		**2/15/2011**	**2/15/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 38.1**	**AOI 38.1**
Isopropyl benzene	ug/kg	390 U	250 U
Methyl acetate	ug/kg	1900 U	1200 U
Methyl cyclohexane	ug/kg	1900 U	1200 U
Methyl tert butyl ether (MTBE)	ug/kg	390 U	250 U
Methylene chloride	ug/kg	390 U	250 U
Styrene	ug/kg	78 U	50 U
Tetrachloroethene	ug/kg	78 U	50 U
Toluene	ug/kg	160 U	100 U
trans-1,2-Dichloroethene	ug/kg	78 U	50 U
trans-1,3-Dichloropropene	ug/kg	78 U	50 U
Trichloroethene	ug/kg	78 U	50 U
Trichlorofluoromethane (CFC-11)	ug/kg	160 U	100 U
Trifluorotrichloroethane (Freon 113)	ug/kg	390 U	250 U
Vinyl chloride	ug/kg	62 U	40 U
Xylenes (total)	ug/kg	230 U	150 U
Semi-Volatile Organic Compounds (SVOCs)			
2-Methylnaphthalene	ug/kg	13 J	270 U
Acenaphthene	ug/kg	13 J	270 U
Acenaphthylene	ug/kg	280 U	270 U
Anthracene	ug/kg	28 J	270 U
Benzo(a)anthracene	ug/kg	210 J	270 U
Benzo(a)pyrene	ug/kg	230 J	270 U
Benzo(b)fluoranthene	ug/kg	380	270 U
Benzo(g,h,i)perylene	ug/kg	260 J	270 U
Benzo(k)fluoranthene	ug/kg	110 J	270 U
Chrysene	ug/kg	200 J	270 U
Dibenz(a,h)anthracene	ug/kg	280 U	270 U
Fluoranthene	ug/kg	370	270 U
Fluorene	ug/kg	8.9 J	270 U
Indeno(1,2,3-cd)pyrene	ug/kg	190 J	270 U
Naphthalene	ug/kg	8.4 J	270 U
Phenanthrene	ug/kg	120 J	270 U
Pyrene	ug/kg	330	270 U

Table 3.42.1

Soil Sample Analytical Results - AOI 38.1 – Former Switch House
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB127-11**	**SB127-11**
Sample Identification		**SO-17360-021511-DR-056**	**SO-17360-021511-DR-057**
Sample Date		**2/15/2011**	**2/15/2011**
Sample Type			
Sample Depth		**(1-3) ft BGS**	**(20-22) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**
AOI		**AOI 38.1**	**AOI 38.1**
Metals			
Antimony	ug/kg	170 J	170 UJ
Arsenic	ug/kg	1900	380
Barium	ug/kg	62800	2900
Beryllium	ug/kg	170 U	170 U
Cadmium	ug/kg	84 U	83 U
Chromium	ug/kg	9500	4300
Cobalt	ug/kg	2700	1400
Copper	ug/kg	10600 J	1300 J
Lead	ug/kg	18200	1900
Manganese	ug/kg	141000 J	18100 J
Mercury	ug/kg	42 U	41 U
Nickel	ug/kg	6200	2900
Selenium	ug/kg	300 J	110 J
Silver	ug/kg	19 J	83 U
Thallium	ug/kg	84 U	83 U
Vanadium	ug/kg	10800	4000
Zinc	ug/kg	24800	7800
Polychlorinated biphenyl (PCBs)			
Aroclor-1016 (PCB-1016)	ug/kg	280 U	270 U
Aroclor-1221 (PCB-1221)	ug/kg	280 U	270 U
Aroclor-1232 (PCB-1232)	ug/kg	280 U	270 U
Aroclor-1242 (PCB-1242)	ug/kg	280 U	270 U
Aroclor-1248 (PCB-1248)	ug/kg	280 U	270 U
Aroclor-1254 (PCB-1254)	ug/kg	280 U	270 U
Aroclor-1260 (PCB-1260)	ug/kg	280 U	270 U
Total PCBs	ug/kg	0	0

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Seam - Zc-5.5 to Zc-7	SB216-12	SB216-12	SB217-12	SB217-12
Sample Identification		SO-17360-061912-EB-001	S-17360-110112-DD-179	S-17360-110112-DD-180	S-17360-110112-DD-181	S-17360-110112-DD-182
Sample Date		6/19/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(0.25-1) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,1,2,2-Tetrachloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,1,2-Trichloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,1-Dichloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,1-Dichloroethene	ug/kg	57 U	56 U	58 U	54 U	59 U
1,2,4-Trichlorobenzene	ug/kg	57 U	56 U	58 U	54 U	59 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	280 U	280 U	290 U	270 U	290 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	57 U	56 U	58 U	54 U	59 U
1,2-Dichlorobenzene	ug/kg	57 U	56 U	58 U	54 U	59 U
1,2-Dichloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,2-Dichloropropane	ug/kg	57 U	56 U	58 U	54 U	59 U
1,3-Dichlorobenzene	ug/kg	57 U	56 U	58 U	54 U	59 U
1,4-Dichlorobenzene	ug/kg	57 U	56 U	58 U	54 U	59 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	850 U	850 U	860 U	810 U	880 U
2-Hexanone	ug/kg	2800 U	2800 U	2900 U	2700 U	2900 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2800 U	2800 U	2900 U	2700 U	2900 U
Acetone	ug/kg	850 U	850 U	860 U	810 U	880 U
Benzene	ug/kg	57 U	15 J	58 U	54 U	59 U
Bromodichloromethane	ug/kg	57 U	56 U	58 U	54 U	59 U
Bromoform	ug/kg	57 U	56 U	58 U	54 U	59 U
Bromomethane (Methyl bromide)	ug/kg	57 U	56 U	58 U	54 U	59 U
Carbon disulfide	ug/kg	280 U	280 U	290 U	270 U	290 U
Carbon tetrachloride	ug/kg	57 U	56 U	58 U	54 U	59 U
Chlorobenzene	ug/kg	57 U	56 U	58 U	54 U	59 U
Chloroethane	ug/kg	57 U	56 U	58 U	54 U	59 U
Chloroform (Trichloromethane)	ug/kg	57 U	56 U	58 U	54 U	59 U
Chloromethane (Methyl chloride)	ug/kg	57 U	56 U	58 U	54 U	59 U
cis-1,2-Dichloroethene	ug/kg	57 U	56 U	58 U	54 U	59 U
cis-1,3-Dichloropropene	ug/kg	57 U	56 U	58 U	54 U	59 U
Cyclohexane	ug/kg	280 U	280 U	290 U	270 U	290 U
Dibromochloromethane	ug/kg	57 U	56 U	58 U	54 U	59 U
Dichlorodifluoromethane (CFC-12)	ug/kg	57 U	56 U	58 U	54 U	59 U
Ethylbenzene	ug/kg	57 U	56 U	58 U	54 U	59 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Seam - Zc-5.5 to Zc-7	SB216-12	SB216-12	SB217-12	SB217-12
Sample Identification		SO-17360-061912-EB-001	S-17360-110112-DD-179	S-17360-110112-DD-180	S-17360-110112-DD-181	S-17360-110112-DD-182
Sample Date		6/19/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(0.25-1) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)						
Isopropyl benzene	ug/kg	57 U	56 U	58 U	54 U	59 U
Methyl acetate	ug/kg	280 U	280 UJ	290 UJ	270 UJ	290 UJ
Methyl cyclohexane	ug/kg	280 U	280 U	290 U	270 U	290 U
Methyl tert butyl ether (MTBE)	ug/kg	57 U	56 U	58 U	54 U	59 U
Methylene chloride	ug/kg	110 U	120 U	120 U	110 U	120 U
Styrene	ug/kg	57 U	56 U	58 U	54 U	59 U
Tetrachloroethene	ug/kg	57 U	56 U	58 U	54 U	59 U
Toluene	ug/kg	57 U	56 U	58 U	54 U	59 U
trans-1,2-Dichloroethene	ug/kg	57 U	56 U	58 U	54 U	59 U
trans-1,3-Dichloropropene	ug/kg	57 U	56 U	58 U	54 U	59 U
Trichloroethene	ug/kg	4800	7400	58 U	170	59 U
Trichlorofluoromethane (CFC-11)	ug/kg	57 U	24 J	58 U	54 U	17 J
Trifluorotrichloroethane (Freon 113)	ug/kg	57 U	56 U	58 U	54 U	59 U
Vinyl chloride	ug/kg	46 U	45 U	46 U	43 U	47 U
Xylenes (total)	ug/kg	170 U	170 U	170 U	160 U	180 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	19 U	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	19 U	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	19 U	--	--	--	--
2,4-Dichlorophenol	ug/kg	38 U	--	--	--	--
2,4-Dimethylphenol	ug/kg	190 U	--	--	--	--
2,4-Dinitrophenol	ug/kg	190 U	--	--	--	--
2,4-Dinitrotoluene	ug/kg	38 U	--	--	--	--
2,6-Dinitrotoluene	ug/kg	19 U	--	--	--	--
2-Chloronaphthalene	ug/kg	19 U	--	--	--	--
2-Chlorophenol	ug/kg	19 UJ	--	--	--	--
2-Methylnaphthalene	ug/kg	5.6 J	240 J	350 U	130 J	360 U
2-Methylphenol	ug/kg	19 U	--	--	--	--
2-Nitroaniline	ug/kg	19 U	--	--	--	--
2-Nitrophenol	ug/kg	19 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	950 U	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Seam - Zc-5.5 to Zc-7	SB216-12	SB216-12	SB217-12	SB217-12
Sample Identification		SO-17360-061912-EB-001	S-17360-110112-DD-179	S-17360-110112-DD-180	S-17360-110112-DD-181	S-17360-110112-DD-182
Sample Date		6/19/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(0.25-1) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)						
3-Nitroaniline	ug/kg	38 U	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	190 U	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	19 U	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	19 U	--	--	--	--
4-Chloroaniline	ug/kg	76 U	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	19 U	--	--	--	--
4-Methylphenol	ug/kg	19 U	--	--	--	--
4-Nitroaniline	ug/kg	38 U	--	--	--	--
4-Nitrophenol	ug/kg	760 U	--	--	--	--
Acenaphthene	ug/kg	2.4 J	330 J	350 U	310 J	360 U
Acenaphthylene	ug/kg	19 U	1900 U	350 U	1800 U	360 U
Acetophenone	ug/kg	19 U	--	--	--	--
Anthracene	ug/kg	10 J	420 J	350 U	620 J	360 U
Atrazine	ug/kg	19 U	--	--	--	--
Benzaldehyde	ug/kg	8 J	--	--	--	--
Benzo(a)anthracene	ug/kg	19 U	1200 J	3.2 J	1500 J	360 U
Benzo(a)pyrene	ug/kg	76	1400 J	2.5 J	1200 J	360 U
Benzo(b)fluoranthene	ug/kg	320	4400	6.1 J	1500 J	360 U
Benzo(g,h,i)perylene	ug/kg	200	1100 J	350 U	280 J	360 U
Benzo(k)fluoranthene	ug/kg	70	1600 J	350 U	700 J	360 U
Biphenyl (1,1-Biphenyl)	ug/kg	19 U	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	19 U	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	19 U	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	38 U	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	38 U	--	--	--	--
Caprolactam	ug/kg	76 U	--	--	--	--
Carbazole	ug/kg	190 U	--	--	--	--
Chrysene	ug/kg	160	2300	5.8 J	1400 J	360 U
Dibenz(a,h)anthracene	ug/kg	73	390 J	350 U	93 J	360 U
Dibenzofuran	ug/kg	9.2 J	--	--	--	--
Diethyl phthalate	ug/kg	19 U	--	--	--	--
Dimethyl phthalate	ug/kg	19 U	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	76 U	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Seam - Zc-5.5 to Zc-7	SB216-12	SB216-12	SB217-12	SB217-12
Sample Identification		SO-17360-061912-EB-001	S-17360-110112-DD-179	S-17360-110112-DD-180	S-17360-110112-DD-181	S-17360-110112-DD-182
Sample Date		6/19/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(0.25-1) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)						
Di-n-octyl phthalate (DnOP)	ug/kg	19 U	--	--	--	--
Fluoranthene	ug/kg	140	3400	12 J	3600	360 U
Fluorene	ug/kg	2.4 J	180 J	350 U	220 J	360 U
Hexachlorobenzene	ug/kg	19 U	--	--	--	--
Hexachlorobutadiene	ug/kg	19 U	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	19 U	--	--	--	--
Hexachloroethane	ug/kg	19 U	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	140	950 J	350 U	360 J	360 U
Isophorone	ug/kg	19 U	--	--	--	--
Naphthalene	ug/kg	10 J	180 J	1.1 J	74 J	360 U
Nitrobenzene	ug/kg	19 U	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	19 U	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	19 U	--	--	--	--
Pentachlorophenol	ug/kg	190 U	--	--	--	--
Phenanthrene	ug/kg	100	2800	8.3 J	2900	360 U
Phenol	ug/kg	2.4 J	--	--	--	--
Pyrene	ug/kg	130	4300	10 J	2600	360 U
Metals						
Antimony	ug/kg	87000	48000	57 J	960	58 J
Arsenic	ug/kg	19000	8800	180	4400	700
Barium	ug/kg	1200000	830000	3500	37000	6200
Beryllium	ug/kg	310 J	280 J	41 J	130 J	110 J
Cadmium	ug/kg	13000	19000	11 J	230	38 J
Chromium	ug/kg	2000000	920000	2900	20000	8400
Cobalt	ug/kg	95000 J	75000	790 J	3100	1700
Copper	ug/kg	1500000	1300000	1200	67000	3300
Iron	ug/kg	180000000	150000000	2200000	10000000	2600000
Lead	ug/kg	5200000	11000000 J	2300 J	68000 J	2000 J
Manganese	ug/kg	7400000	3300000	15000	200000	26000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		Seam - Zc-5.5 to Zc-7	SB216-12	SB216-12	SB217-12	SB217-12
Sample Identification		SO-17360-061912-EB-001	S-17360-110112-DD-179	S-17360-110112-DD-180	S-17360-110112-DD-181	S-17360-110112-DD-182
Sample Date		6/19/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type						
Sample Depth		(0.25-1) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)						
Mercury	ug/kg	13 J	24 J	50 U	11 J	50 U
Molybdenum	ug/kg	560000	340000	200 J	7200	160 J
Nickel	ug/kg	1600000	750000	2200	16000	4500
Selenium	ug/kg	490 UJ	240	41 J	160	65 J
Silver	ug/kg	9200 J	82000	9.7 J	960	25 J
Thallium	ug/kg	180 J	110	15 J	40 J	59
Vanadium	ug/kg	19000 J	23000	3100	7700	7200
Zinc	ug/kg	3400000	1300000	6500	51000	9100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	380 U	370 U	350 U	360 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	380 U	370 U	350 U	360 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	380 U	370 U	350 U	360 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	380 U	370 U	350 U	360 U	360 U
Aroclor-1248 (PCB-1248)	ug/kg	380 U	370 U	350 U	360 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	380 U	21 J	350 U	23 J	360 U
Aroclor-1260 (PCB-1260)	ug/kg	18 J	22 J	350 U	25 J	360 U
Total PCBs	ug/kg	18 J	43 J	0	48 J	0

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB218-12	SB218-12	SB219-12	SB219-12	SB219-12
Sample Identification		S-17360-110112-DD-183	S-17360-110112-DD-184	S-17360-110112-DD-173	S-17360-110112-DD-174	S-17360-110112-DD-178
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(15.5-17.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(15.5-17.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,1,2,2-Tetrachloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,1,2-Trichloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,1-Dichloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,1-Dichloroethene	ug/kg	48 U	53 U	95 U	58 U	54 U
1,2,4-Trichlorobenzene	ug/kg	48 U	53 U	95 U	58 U	54 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	240 U	270 U	470 U	290 U	270 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	48 U	53 U	95 U	58 U	54 U
1,2-Dichlorobenzene	ug/kg	48 U	53 U	95 U	58 U	54 U
1,2-Dichloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,2-Dichloropropane	ug/kg	48 U	53 U	95 U	58 U	54 U
1,3-Dichlorobenzene	ug/kg	48 U	53 U	95 U	58 U	54 U
1,4-Dichlorobenzene	ug/kg	48 U	53 U	95 U	58 U	54 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	720 U	800 U	1400 U	870 U	810 U
2-Hexanone	ug/kg	2400 U	2700 U	4700 U	2900 U	2700 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2400 U	2700 U	4700 U	2900 U	2700 U
Acetone	ug/kg	720 U	800 U	1400 U	870 U	810 U
Benzene	ug/kg	48 U	53 U	95 U	58 U	54 U
Bromodichloromethane	ug/kg	48 U	53 U	95 U	58 U	54 U
Bromoform	ug/kg	48 U	53 U	95 U	58 U	54 U
Bromomethane (Methyl bromide)	ug/kg	48 U	53 U	95 U	58 U	54 U
Carbon disulfide	ug/kg	240 U	270 U	470 U	290 U	270 U
Carbon tetrachloride	ug/kg	48 U	53 U	95 U	58 U	54 U
Chlorobenzene	ug/kg	48 U	53 U	95 U	58 U	54 U
Chloroethane	ug/kg	48 U	53 U	95 U	58 U	54 U
Chloroform (Trichloromethane)	ug/kg	48 U	53 U	95 U	58 U	54 U
Chloromethane (Methyl chloride)	ug/kg	48 U	53 U	95 U	58 U	54 U
cis-1,2-Dichloroethene	ug/kg	48 U	53 U	95 U	58 U	54 U
cis-1,3-Dichloropropene	ug/kg	48 U	53 U	95 U	58 U	54 U
Cyclohexane	ug/kg	240 U	270 U	470 U	290 U	270 U
Dibromochloromethane	ug/kg	48 U	53 U	95 U	58 U	54 U
Dichlorodifluoromethane (CFC-12)	ug/kg	48 U	53 U	95 U	58 U	54 U
Ethylbenzene	ug/kg	48 U	53 U	95 U	58 U	54 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB218-12	SB218-12	SB219-12	SB219-12	SB219-12
Sample Identification		S-17360-110112-DD-183	S-17360-110112-DD-184	S-17360-110112-DD-173	S-17360-110112-DD-174	S-17360-110112-DD-178
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(15.5-17.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(15.5-17.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)						
Isopropyl benzene	ug/kg	48 U	53 U	95 U	58 U	54 U
Methyl acetate	ug/kg	240 UJ	270 UJ	470 UJ	290 UJ	270 UJ
Methyl cyclohexane	ug/kg	43 J	270 U	470 U	290 U	270 U
Methyl tert butyl ether (MTBE)	ug/kg	48 U	53 U	95 U	58 U	54 U
Methylene chloride	ug/kg	96 U	110 U	350 U	120 U	110 U
Styrene	ug/kg	48 U	53 U	95 U	58 U	54 U
Tetrachloroethene	ug/kg	48 U	53 U	95 U	58 U	54 U
Toluene	ug/kg	13 J	53 U	95 U	58 U	54 U
trans-1,2-Dichloroethene	ug/kg	48 U	53 U	95 U	58 U	54 U
trans-1,3-Dichloropropene	ug/kg	48 U	53 U	95 U	58 U	54 U
Trichloroethene	ug/kg	400	53 U	490 J	26 J	54 U
Trichlorofluoromethane (CFC-11)	ug/kg	48 U	53 U	65 J	58 U	54 U
Trifluorotrichloroethane (Freon 113)	ug/kg	48 U	53 U	95 U	58 U	54 U
Vinyl chloride	ug/kg	39 U	43 U	76 U	47 U	43 U
Xylenes (total)	ug/kg	28 J	160 U	280 U	170 U	160 U
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--
2-Methylnaphthalene	ug/kg	66 J	2.2 J	33 J	30 J	360 U
2-Methylphenol	ug/kg	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB218-12	SB218-12	SB219-12	SB219-12	SB219-12
Sample Identification		S-17360-110112-DD-183	S-17360-110112-DD-184	S-17360-110112-DD-173	S-17360-110112-DD-174	S-17360-110112-DD-178
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(15.5-17.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(15.5-17.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)						
3-Nitroaniline	ug/kg	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--
Acenaphthene	ug/kg	200 J	2.2 J	84 J	83 J	1.1 J
Acenaphthylene	ug/kg	1800 U	350 U	1800 U	1800 U	360 U
Acetophenone	ug/kg	--	--	--	--	--
Anthracene	ug/kg	310 J	12 J	160 J	160 J	2.2 J
Atrazine	ug/kg	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--
Benzo(a)anthracene	ug/kg	860 J	26 J	570 J	520 J	6.2 J
Benzo(a)pyrene	ug/kg	660 J	17 J	440 J	410 J	4 J
Benzo(b)fluoranthene	ug/kg	1000 J	29 J	590 J	580 J	5.8 J
Benzo(g,h,i)perylene	ug/kg	84 J	350 U	44 J	19 J	360 U
Benzo(k)fluoranthene	ug/kg	410 J	13 J	330 J	250 J	360 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--
Chrysene	ug/kg	910 J	31 J	640 J	610 J	6.9 J
Dibenz(a,h)anthracene	ug/kg	1800 U	350 U	51 J	30 J	360 UJ
Dibenzofuran	ug/kg	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB218-12	SB218-12	SB219-12	SB219-12	SB219-12
Sample Identification		S-17360-110112-DD-183	S-17360-110112-DD-184	S-17360-110112-DD-173	S-17360-110112-DD-174	S-17360-110112-DD-178
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(15.5-17.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(15.5-17.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)						
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--	--
Fluoranthene	ug/kg	2500	62 J	1500 J	1400 J	12 J
Fluorene	ug/kg	110 J	2.5 J	51 J	53 J	1.5 J
Hexachlorobenzene	ug/kg	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	180 J	350 U	140 J	130 J	360 U
Isophorone	ug/kg	--	--	--	--	--
Naphthalene	ug/kg	29 J	1.8 J	18 J	15 J	360 U
Nitrobenzene	ug/kg	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--
Phenanthrene	ug/kg	1900	35 J	950 J	980 J	14 J
Phenol	ug/kg	--	--	--	--	--
Pyrene	ug/kg	1700 J	48 J	1100 J	1000 J	10 J
Metals						
Antimony	ug/kg	2300	170	780	960	39 J
Arsenic	ug/kg	3400	430	12000	14000	190
Barium	ug/kg	53000	7300	51000	57000	4300
Beryllium	ug/kg	200 J	50 J	460 J	500	48 J
Cadmium	ug/kg	480	130	130	130	9.7 J
Chromium	ug/kg	33000	7000	8900	8000	3700
Cobalt	ug/kg	3300	5800	3100	3200	1000
Copper	ug/kg	31000	4200	15000	13000	1300
Iron	ug/kg	7100000	2800000	5300000	5600000	1600000
Lead	ug/kg	62000 J	3900 J	48000 J	46000 J	1200 J
Manganese	ug/kg	220000	30000	90000	92000	21000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB218-12	SB218-12	SB219-12	SB219-12	SB219-12
Sample Identification		S-17360-110112-DD-183	S-17360-110112-DD-184	S-17360-110112-DD-173	S-17360-110112-DD-174	S-17360-110112-DD-178
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Type					Duplicate	
Sample Depth		(0-2) ft BGS	(15.5-17.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(15.5-17.5) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)						
Mercury	ug/kg	18 J	50 U	30 J	29 J	50 U
Molybdenum	ug/kg	5800	1100	1800	1400	76 J
Nickel	ug/kg	35000	9000	8900	8900	2700
Selenium	ug/kg	260	140	450	490	92 U
Silver	ug/kg	220	86	75	70	11 J
Thallium	ug/kg	72	43 J	250	270	20 J
Vanadium	ug/kg	8600	5100	9900	9300	4200
Zinc	ug/kg	120000	13000	25000	29000	7100
Polychlorinated biphenyl (PCBs)						
Aroclor-1016 (PCB-1016)	ug/kg	360 U	350 U	360 U	360 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	350 U	360 U	360 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	350 U	360 U	360 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	360 U	350 U	360 U	360 U	360 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	350 U	360 U	360 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	28 J	350 U	35 J	30 J	360 U
Aroclor-1260 (PCB-1260)	ug/kg	35 J	350 U	23 J	19 J	360 U
Total PCBs	ug/kg	63 J	0	58 J	49 J	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB220-12	SB220-12	SB241-13	SB241-13
Sample Identification		S-17360-103012-DD-127	S-17360-103012-DD-128	SO-17360-042413-DR-057	SO-17360-042413-DR-058
Sample Date		10/30/2012	10/30/2012	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	50 U	57 U	33 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	50 U	57 U	33 U	37 U
1,1,2-Trichloroethane	ug/kg	50 U	57 U	33 U	37 U
1,1-Dichloroethane	ug/kg	50 U	57 U	33 U	37 U
1,1-Dichloroethene	ug/kg	50 U	57 U	33 U	37 U
1,2,4-Trichlorobenzene	ug/kg	50 U	57 U	33 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	250 U	280 U	33 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	50 U	57 U	33 U	37 U
1,2-Dichlorobenzene	ug/kg	50 U	57 U	33 U	37 U
1,2-Dichloroethane	ug/kg	50 U	57 U	33 U	37 U
1,2-Dichloropropane	ug/kg	50 U	57 U	33 U	37 U
1,3-Dichlorobenzene	ug/kg	50 U	57 U	33 U	37 U
1,4-Dichlorobenzene	ug/kg	50 U	57 U	33 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	750 U	850 U	220 U	250 U
2-Hexanone	ug/kg	2500 U	2800 U	33 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2500 U	2800 U	33 U	37 U
Acetone	ug/kg	750 U	850 U	110 U	240
Benzene	ug/kg	50 U	57 U	33 U	37 U
Bromodichloromethane	ug/kg	50 U	57 U	33 U	37 U
Bromoform	ug/kg	50 U	57 U	33 U	37 U
Bromomethane (Methyl bromide)	ug/kg	50 U	57 U	83 U	93 U
Carbon disulfide	ug/kg	250 U	280 U	33 U	37 U
Carbon tetrachloride	ug/kg	50 U	57 U	33 U	37 U
Chlorobenzene	ug/kg	50 U	57 U	33 U	37 U
Chloroethane	ug/kg	50 U	57 U	110 U	120 U
Chloroform (Trichloromethane)	ug/kg	50 U	57 U	33 U	37 U
Chloromethane (Methyl chloride)	ug/kg	50 U	57 U	110 U	120 U
cis-1,2-Dichloroethene	ug/kg	50 U	57 U	33 U	37 U
cis-1,3-Dichloropropene	ug/kg	50 U	57 U	33 U	37 U
Cyclohexane	ug/kg	250 U	280 U	33 U	37 U
Dibromochloromethane	ug/kg	50 U	57 U	33 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	50 U	57 U	33 U	37 U
Ethylbenzene	ug/kg	50 U	57 U	33 U	37 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB220-12	SB220-12	SB241-13	SB241-13
Sample Identification		S-17360-103012-DD-127	S-17360-103012-DD-128	SO-17360-042413-DR-057	SO-17360-042413-DR-058
Sample Date		10/30/2012	10/30/2012	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	50 U	57 U	33 U	37 U
Methyl acetate	ug/kg	250 U	280 U	220 U	250 U
Methyl cyclohexane	ug/kg	250 U	280 U	33 U	37 U
Methyl tert butyl ether (MTBE)	ug/kg	50 U	57 U	33 U	37 U
Methylene chloride	ug/kg	100 U	110 U	33 U	37 U
Styrene	ug/kg	50 U	57 U	33 U	37 U
Tetrachloroethene	ug/kg	50 U	57 U	33 U	37 U
Toluene	ug/kg	50 U	57 U	33 U	37
trans-1,2-Dichloroethene	ug/kg	50 U	57 U	33 U	37 U
trans-1,3-Dichloropropene	ug/kg	50 U	57 U	33 U	37 U
Trichloroethene	ug/kg	50 U	57 U	33 U	6100
Trichlorofluoromethane (CFC-11)	ug/kg	50 U	57 U	33 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	50 U	57 U	33 U	37 U
Vinyl chloride	ug/kg	40 U	45 U	33 U	37 U
Xylenes (total)	ug/kg	150 U	170 U	100 U	46 J
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	100 J	2.5 J	380 J	20 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB220-12	SB220-12	SB241-13	SB241-13
Sample Identification		S-17360-103012-DD-127	S-17360-103012-DD-128	SO-17360-042413-DR-057	SO-17360-042413-DR-058
Sample Date		10/30/2012	10/30/2012	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	280 J	2.9 J	530	32 U
Acenaphthylene	ug/kg	7.5 J	1.1 J	330 U	32 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	350 J	11 J	880	20 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	990	45 J	2100	90
Benzo(a)pyrene	ug/kg	670 J	34 J	1600	64
Benzo(b)fluoranthene	ug/kg	1100	53 J	2400	260
Benzo(g,h,i)perylene	ug/kg	360 J	31 J	640	58
Benzo(k)fluoranthene	ug/kg	430 J	24 J	1100	91
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	980	48 J	2200	200
Dibenz(a,h)anthracene	ug/kg	130 J	13 J	210 J	19 J
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB220-12	SB220-12	SB241-13	SB241-13
Sample Identification		S-17360-103012-DD-127	S-17360-103012-DD-128	SO-17360-042413-DR-057	SO-17360-042413-DR-058
Sample Date		10/30/2012	10/30/2012	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2200	65 J	5300	210
Fluorene	ug/kg	200 J	3.2 J	280 J	32 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	360 J	28 J	620	37
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	69 J	2.1 J	330 U	120
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	2300	34 J	4900	270
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	2200	68 J	4700	140
Metals					
Antimony	ug/kg	280	27 J	690	5900
Arsenic	ug/kg	1600	230	1400	3100
Barium	ug/kg	35000 J	3100 J	110000 J	150000 J
Beryllium	ug/kg	190 J	62 J	110 J	85 J
Cadmium	ug/kg	77	38 J	290	14000
Chromium	ug/kg	6600	2700	12000	200000
Cobalt	ug/kg	2000	1100	2400	18000
Copper	ug/kg	7600	2300	12000	120000
Iron	ug/kg	5100000	1500000	4900000	20000000
Lead	ug/kg	37000	1100	150000	440000
Manganese	ug/kg	140000	13000	140000 J	2300000 J

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB220-12	SB220-12	SB241-13	SB241-13
Sample Identification		S-17360-103012-DD-127	S-17360-103012-DD-128	SO-17360-042413-DR-057	SO-17360-042413-DR-058
Sample Date		10/30/2012	10/30/2012	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(14.5-16.5) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	12 J	50 U	23 J	37 U
Molybdenum	ug/kg	380 J	35 J	1600	520000
Nickel	ug/kg	5200	2700	8700	200000
Selenium	ug/kg	44 J	100 U	430 U	360 U
Silver	ug/kg	33 J	13 J	61 J	3000
Thallium	ug/kg	40 J	17 J	430 U	360 U
Vanadium	ug/kg	9400	3800	8700	360 U
Zinc	ug/kg	24000	7300	42000 J	190000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	350 U	350 U	360 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	350 U	360 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	350 U	360 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	350 U	360 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	350 U	360 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	35 J	350 U	360 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	32 J	350 U	79 J	340 U
Total PCBs	ug/kg	67 J	0	79 J	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB241-13	SB241-13	SB241-13	SB242-13
Sample Identification		SO-17360-042413-DR-059	SO-17360-042413-DR-060	SO-17360-042413-DR-061	SO-17360-042413-DR-062
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	31 U	32 U	40 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	31 U	32 U	40 U	40 U
1,1,2-Trichloroethane	ug/kg	31 U	32 U	40 U	40 U
1,1-Dichloroethane	ug/kg	31 U	32 U	40 U	40 U
1,1-Dichloroethene	ug/kg	31 U	32 U	40 U	40 U
1,2,4-Trichlorobenzene	ug/kg	31 U	32 U	40 U	40 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	31 U	32 U	40 U	40 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	31 U	32 U	40 U	40 U
1,2-Dichlorobenzene	ug/kg	31 U	32 U	40 U	40 U
1,2-Dichloroethane	ug/kg	31 U	32 U	40 U	40 U
1,2-Dichloropropane	ug/kg	31 U	32 U	40 U	40 U
1,3-Dichlorobenzene	ug/kg	31 U	32 U	40 U	40 U
1,4-Dichlorobenzene	ug/kg	31 U	32 U	40 U	40 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	210 U	270 U	270 U
2-Hexanone	ug/kg	31 U	32 U	40 U	40 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	31 U	32 U	40 U	40 U
Acetone	ug/kg	100 U	110 U	130 U	130 U
Benzene	ug/kg	31 U	32 U	40 U	40 U
Bromodichloromethane	ug/kg	31 U	32 U	40 U	40 U
Bromoform	ug/kg	31 U	32 U	40 U	40 U
Bromomethane (Methyl bromide)	ug/kg	79 U	80 U	100 U	100 U
Carbon disulfide	ug/kg	31 U	32 U	40 U	40 U
Carbon tetrachloride	ug/kg	31 U	32 U	40 U	40 U
Chlorobenzene	ug/kg	31 U	32 U	40 U	40 U
Chloroethane	ug/kg	100 U	110 U	130 U	130 U
Chloroform (Trichloromethane)	ug/kg	31 U	32 U	40 U	40 U
Chloromethane (Methyl chloride)	ug/kg	100 U	110 U	130 U	130 U
cis-1,2-Dichloroethene	ug/kg	31 U	32 U	40 U	40 U
cis-1,3-Dichloropropene	ug/kg	31 U	32 U	40 U	40 U
Cyclohexane	ug/kg	31 U	32 U	40 U	40 U
Dibromochloromethane	ug/kg	31 U	32 U	40 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	31 U	32 U	40 U	40 U
Ethylbenzene	ug/kg	31 U	32 U	40 U	40 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB241-13	SB241-13	SB241-13	SB242-13
Sample Identification		SO-17360-042413-DR-059	SO-17360-042413-DR-060	SO-17360-042413-DR-061	SO-17360-042413-DR-062
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	31 U	32 U	40 U	40 U
Methyl acetate	ug/kg	210 U	210 U	270 U	270 U
Methyl cyclohexane	ug/kg	31 U	32 U	40 U	40 U
Methyl tert butyl ether (MTBE)	ug/kg	31 U	32 U	40 U	40 U
Methylene chloride	ug/kg	31 U	32 U	40 U	40 U
Styrene	ug/kg	31 U	32 U	40 U	40 U
Tetrachloroethene	ug/kg	31 U	32 U	40 U	40 U
Toluene	ug/kg	31 U	32 U	40 U	22 J
trans-1,2-Dichloroethene	ug/kg	31 U	32 U	40 U	40 U
trans-1,3-Dichloropropene	ug/kg	31 U	32 U	40 U	40 U
Trichloroethene	ug/kg	930	32 U	1300	3100
Trichlorofluoromethane (CFC-11)	ug/kg	31 U	32 U	40 U	40 U
Trifluorotrichloroethane (Freon 113)	ug/kg	31 U	32 U	40 U	40 U
Vinyl chloride	ug/kg	31 U	32 U	40 U	40 U
Xylenes (total)	ug/kg	94 U	96 U	120 U	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	35 J	84 U	36 J	470 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB241-13	SB241-13	SB241-13	SB242-13
Sample Identification		SO-17360-042413-DR-059	SO-17360-042413-DR-060	SO-17360-042413-DR-061	SO-17360-042413-DR-062
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	56	31 U	46	430
Acenaphthylene	ug/kg	31 U	31 U	31 U	330 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	64	39	60	760
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	75	180	89	1200
Benzo(a)pyrene	ug/kg	81	170	110	1100
Benzo(b)fluoranthene	ug/kg	130	260	140	1600
Benzo(g,h,i)perylene	ug/kg	63	66	72	490
Benzo(k)fluoranthene	ug/kg	79	140	86	720
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	100	220	100	1600
Dibenz(a,h)anthracene	ug/kg	35	23 J	34	330 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB241-13	SB241-13	SB241-13	SB242-13
Sample Identification		SO-17360-042413-DR-059	SO-17360-042413-DR-060	SO-17360-042413-DR-061	SO-17360-042413-DR-062
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	150	370	140	3300
Fluorene	ug/kg	48	31 U	44	350
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	60	55	81	400
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	31 U	31 U	31 U	190 J
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	110	170	70	3300
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	160	340	170	3000
Metals					
Antimony	ug/kg	6300	1000	440	640
Arsenic	ug/kg	2600	1000	1700	2100
Barium	ug/kg	100000 J	14000 J	26000 J	52000 J
Beryllium	ug/kg	56 J	46 J	92 J	170 J
Cadmium	ug/kg	2500	1400	750	240
Chromium	ug/kg	130000	15000	12000	17000
Cobalt	ug/kg	15000	1200	1300	2700
Copper	ug/kg	130000	8100	6500	15000
Iron	ug/kg	16000000	4600000	3800000	6200000
Lead	ug/kg	660000	7900	8700	210000
Manganese	ug/kg	400000 J	58000 J	61000 J	150000 J

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB241-13	SB241-13	SB241-13	SB242-13
Sample Identification		SO-17360-042413-DR-059	SO-17360-042413-DR-060	SO-17360-042413-DR-061	SO-17360-042413-DR-062
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	36 U	40 U	8.2 J	18 J
Molybdenum	ug/kg	64000	17000	11000	2400
Nickel	ug/kg	180000	15000	9400	13000
Selenium	ug/kg	390 U	400 U	400 U	320 J
Silver	ug/kg	4000	4400	1600	140 J
Thallium	ug/kg	29 J	22 J	30 J	430 U
Vanadium	ug/kg	3100	2000	2500	11000
Zinc	ug/kg	140000 J	9700 J	9700 J	29000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	330 U	350 U	330 U	350 U
Aroclor-1260 (PCB-1260)	ug/kg	330 U	350 U	330 U	350 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB242-13	SB242-13	SB242-13
Sample Identification		SO-17360-042413-DR-063	SO-17360-042413-DR-064	SO-17360-042413-DR-065	SO-17360-042413-DR-066
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	42 U	43 U	47 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	42 U	43 U	47 U	40 U
1,1,2-Trichloroethane	ug/kg	42 U	43 U	47 U	40 U
1,1-Dichloroethane	ug/kg	42 U	43 U	47 U	40 U
1,1-Dichloroethene	ug/kg	42 U	43 U	47 U	40 U
1,2,4-Trichlorobenzene	ug/kg	42 U	43 U	47 U	40 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	42 U	43 U	47 U	40 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	42 U	43 U	47 U	40 U
1,2-Dichlorobenzene	ug/kg	42 U	43 U	47 U	40 U
1,2-Dichloroethane	ug/kg	42 U	43 U	47 U	40 U
1,2-Dichloropropane	ug/kg	42 U	43 U	47 U	40 U
1,3-Dichlorobenzene	ug/kg	42 U	43 U	47 U	40 U
1,4-Dichlorobenzene	ug/kg	42 U	43 U	47 U	40 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	280 U	290 U	310 U	270 U
2-Hexanone	ug/kg	42 U	43 U	47 U	40 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	42 U	43 U	47 U	40 U
Acetone	ug/kg	140 U	140 U	400	130 U
Benzene	ug/kg	42 U	43 U	47 U	40 U
Bromodichloromethane	ug/kg	42 U	43 U	47 U	40 U
Bromoform	ug/kg	42 U	43 U	47 U	40 U
Bromomethane (Methyl bromide)	ug/kg	110 U	110 U	120 U	100 U
Carbon disulfide	ug/kg	42 U	43 U	47 U	40 U
Carbon tetrachloride	ug/kg	42 U	43 U	47 U	40 U
Chlorobenzene	ug/kg	42 U	43 U	47 U	40 U
Chloroethane	ug/kg	140 U	140 U	160 U	130 U
Chloroform (Trichloromethane)	ug/kg	42 U	43 U	47 U	40 U
Chloromethane (Methyl chloride)	ug/kg	140 U	140 U	160 U	130 U
cis-1,2-Dichloroethene	ug/kg	42 U	43 U	170	40 U
cis-1,3-Dichloropropene	ug/kg	42 U	43 U	47 U	40 U
Cyclohexane	ug/kg	42 U	43 U	47 U	40 U
Dibromochloromethane	ug/kg	42 U	43 U	47 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	42 U	43 U	47 U	40 U
Ethylbenzene	ug/kg	42 U	43 U	47 U	40 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB242-13	SB242-13	SB242-13
Sample Identification		SO-17360-042413-DR-063	SO-17360-042413-DR-064	SO-17360-042413-DR-065	SO-17360-042413-DR-066
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	42 U	43 U	47 U	40 U
Methyl acetate	ug/kg	280 U	290 U	310 U	270 U
Methyl cyclohexane	ug/kg	42 U	43 U	47 U	40 U
Methyl tert butyl ether (MTBE)	ug/kg	42 U	43 U	47 U	40 U
Methylene chloride	ug/kg	42 U	43 U	47 U	40 U
Styrene	ug/kg	42 U	43 U	47 U	40 U
Tetrachloroethene	ug/kg	42 U	43 U	47 U	40 U
Toluene	ug/kg	42 U	43 U	31 J	40 U
trans-1,2-Dichloroethene	ug/kg	42 U	43 U	77	40 U
trans-1,3-Dichloropropene	ug/kg	42 U	43 U	47 U	40 U
Trichloroethene	ug/kg	8600	8000	17000	6100
Trichlorofluoromethane (CFC-11)	ug/kg	42 U	43 U	47 U	40 U
Trifluorotrichloroethane (Freon 113)	ug/kg	42 U	43 U	47 U	40 U
Vinyl chloride	ug/kg	42 U	43 U	47 U	40 U
Xylenes (total)	ug/kg	130 U	130 U	140 U	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	950 U	910 U	830 J	920 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB242-13	SB242-13	SB242-13
Sample Identification		SO-17360-042413-DR-063	SO-17360-042413-DR-064	SO-17360-042413-DR-065	SO-17360-042413-DR-066
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	350 U	340 U	1100	350 U
Acenaphthylene	ug/kg	350 U	340 U	1100	350 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	350 U	340 U	2900	200 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1500	1400	21000	1600
Benzo(a)pyrene	ug/kg	930	1200	25000	1400
Benzo(b)fluoranthene	ug/kg	5400	4500	32000	4100
Benzo(g,h,i)perylene	ug/kg	940	1000	18000	990
Benzo(k)fluoranthene	ug/kg	1400	1600	9800	1200
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	4100	3400	21000	2900
Dibenz(a,h)anthracene	ug/kg	460	400	5400	350
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB242-13	SB242-13	SB242-13
Sample Identification		SO-17360-042413-DR-063	SO-17360-042413-DR-064	SO-17360-042413-DR-065	SO-17360-042413-DR-066
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2300	2000	24000	2600
Fluorene	ug/kg	350 U	340 U	1100	350 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	820	900	21000	840
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	350 U	340 U	660 U	350 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	930	860	9000	1800
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1700	1600	26000	2000
Metals					
Antimony	ug/kg	31000	21000	38000	78000
Arsenic	ug/kg	18000	13000	9900	14000
Barium	ug/kg	560000 J	400000 J	340000 J	660000
Beryllium	ug/kg	340	470	140 J	110 J
Cadmium	ug/kg	44000	25000	15000	26000
Chromium	ug/kg	1200000	1800000	1400000	1300000 J
Cobalt	ug/kg	120000	86000	41000	120000
Copper	ug/kg	1200000	840000	510000	2700000 J
Iron	ug/kg	160000000	130000000	72000000	140000000
Lead	ug/kg	1900000	1000000	1400000	3300000 J
Manganese	ug/kg	3900000 J	7300000 J	3800000 J	6300000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB242-13	SB242-13	SB242-13
Sample Identification		SO-17360-042413-DR-063	SO-17360-042413-DR-064	SO-17360-042413-DR-065	SO-17360-042413-DR-066
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	23 J	18 J	54	23 J
Molybdenum	ug/kg	670000	560000	440000	760000
Nickel	ug/kg	1100000	1200000	1000000	1500000 J
Selenium	ug/kg	400 J	560	480	460
Silver	ug/kg	21000	19000	4500	10000
Thallium	ug/kg	470 U	270 J	140 J	44000 U
Vanadium	ug/kg	470 U	430 U	410 U	440 U
Zinc	ug/kg	1400000 J	850000 J	770000 J	4600000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1221 (PCB-1221)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1232 (PCB-1232)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1242 (PCB-1242)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1248 (PCB-1248)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1254 (PCB-1254)	ug/kg	370 U	380 U	350 U	380 U
Aroclor-1260 (PCB-1260)	ug/kg	370 U	380 U	350 U	380 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB243-13	SB243-13	SB243-13
Sample Identification		SO-17360-042413-DR-067	SO-17360-042413-DR-068	SO-17360-042413-DR-069	SO-17360-042413-DR-070
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	36 U	33 U	57 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	36 U	33 U	57 U
1,1,2-Trichloroethane	ug/kg	34 U	36 U	33 U	57 U
1,1-Dichloroethane	ug/kg	34 U	36 U	33 U	57 U
1,1-Dichloroethene	ug/kg	34 U	36 U	33 U	57 U
1,2,4-Trichlorobenzene	ug/kg	34 U	36 U	33 U	57 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	36 U	33 U	57 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	36 U	33 U	57 U
1,2-Dichlorobenzene	ug/kg	34 U	36 U	33 U	57 U
1,2-Dichloroethane	ug/kg	34 U	36 U	33 U	57 U
1,2-Dichloropropane	ug/kg	34 U	36 U	33 U	57 U
1,3-Dichlorobenzene	ug/kg	34 U	36 U	33 U	57 U
1,4-Dichlorobenzene	ug/kg	34 U	36 U	33 U	57 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	240 U	220 U	380 U
2-Hexanone	ug/kg	34 U	36 U	33 U	57 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	36 U	33 U	57 U
Acetone	ug/kg	110 U	120 U	110 U	190 U
Benzene	ug/kg	34 U	36 U	33 U	57 U
Bromodichloromethane	ug/kg	34 U	36 U	33 U	57 U
Bromoform	ug/kg	34 U	36 U	33 U	57 U
Bromomethane (Methyl bromide)	ug/kg	85 U	90 U	82 U	140 U
Carbon disulfide	ug/kg	34 U	36 U	33 U	57 U
Carbon tetrachloride	ug/kg	34 U	36 U	33 U	57 U
Chlorobenzene	ug/kg	34 U	36 U	33 U	57 U
Chloroethane	ug/kg	110 U	120 U	110 U	190 U
Chloroform (Trichloromethane)	ug/kg	34 U	36 U	33 U	57 U
Chloromethane (Methyl chloride)	ug/kg	110 U	120 U	110 U	190 U
cis-1,2-Dichloroethene	ug/kg	34 U	36 U	33 U	57 U
cis-1,3-Dichloropropene	ug/kg	34 U	36 U	33 U	57 U
Cyclohexane	ug/kg	34 U	36 U	33 U	57 U
Dibromochloromethane	ug/kg	34 U	36 U	33 U	57 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	36 U	33 U	57 U
Ethylbenzene	ug/kg	34 U	36 U	19 J	57 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB243-13	SB243-13	SB243-13
Sample Identification		SO-17360-042413-DR-067	SO-17360-042413-DR-068	SO-17360-042413-DR-069	SO-17360-042413-DR-070
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	36 U	33 U	57 U
Methyl acetate	ug/kg	230 U	240 U	220 U	380 U
Methyl cyclohexane	ug/kg	34 U	36 U	33 U	57 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	36 U	33 U	57 U
Methylene chloride	ug/kg	34 U	36 U	33 U	57 U
Styrene	ug/kg	34 U	36 U	33 U	57 U
Tetrachloroethene	ug/kg	34 U	36 U	33 U	57 U
Toluene	ug/kg	34 U	36 U	71	57 U
trans-1,2-Dichloroethene	ug/kg	34 U	36 U	33 U	57 U
trans-1,3-Dichloropropene	ug/kg	34 U	36 U	33 U	57 U
Trichloroethene	ug/kg	550	350	760	350
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	36 U	33 U	57 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	36 U	33 U	57 U
Vinyl chloride	ug/kg	34 U	36 U	33 U	57 U
Xylenes (total)	ug/kg	100 U	110 U	99	170 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	34 J	240 J	880 U	880 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB243-13	SB243-13	SB243-13
Sample Identification		SO-17360-042413-DR-067	SO-17360-042413-DR-068	SO-17360-042413-DR-069	SO-17360-042413-DR-070
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	34 U	410	330 U	330 U
Acenaphthylene	ug/kg	34 U	330 U	330 U	330 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	57	600	240 J	330 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	40	1300	760	400
Benzo(a)pyrene	ug/kg	64	1000	690	330 J
Benzo(b)fluoranthene	ug/kg	72	1600	1200	560
Benzo(g,h,i)perylene	ug/kg	44	340	280 J	310 J
Benzo(k)fluoranthene	ug/kg	71	780	510	310 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	67	1400	990	500
Dibenz(a,h)anthracene	ug/kg	32 J	330 U	330 U	330 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB243-13	SB243-13	SB243-13
Sample Identification		SO-17360-042413-DR-067	SO-17360-042413-DR-068	SO-17360-042413-DR-069	SO-17360-042413-DR-070
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	71	3700	1400	730
Fluorene	ug/kg	45	220 J	330 U	330 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	41	290 J	220 J	210 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	34 U	330 U	330 U	330 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	34 U	3400	840	440
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	48	3300	1300	680
Metals					
Antimony	ug/kg	230 J	680	560 J	700 J
Arsenic	ug/kg	1100	26000	3100	5200
Barium	ug/kg	37000	71000	44000	49000
Beryllium	ug/kg	130 J	350	240 J	340 J
Cadmium	ug/kg	180	170	240 J	190 J
Chromium	ug/kg	7000 J	10000 J	8300 J	10000 J
Cobalt	ug/kg	2100	2400	3000	3000
Copper	ug/kg	4900 J	17000 J	17000 J	17000 J
Iron	ug/kg	5200000	5900000	7100000	5200000
Lead	ug/kg	11000 J	64000 J	25000 J	23000 J
Manganese	ug/kg	330000	120000	150000	110000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB242-13	SB243-13	SB243-13	SB243-13
Sample Identification		SO-17360-042413-DR-067	SO-17360-042413-DR-068	SO-17360-042413-DR-069	SO-17360-042413-DR-070
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	8.8 J	35 J	13 J	11 J
Molybdenum	ug/kg	2700	2200	1900 U	2100 U
Nickel	ug/kg	7800 J	6800 J	9200 J	7700 J
Selenium	ug/kg	190 J	1300	440 J	370 J
Silver	ug/kg	31 J	85 J	9.2 J	24 J
Thallium	ug/kg	63 J	1000	49 J	130 J
Vanadium	ug/kg	6700 J	9900 J	11000 J	9400 J
Zinc	ug/kg	75000 J	22000 J	31000 J	24000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1248 (PCB-1248)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	370 U	350 U	350 U	360 U
Aroclor-1260 (PCB-1260)	ug/kg	370 U	350 U	350 U	360 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB243-13	SB243-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-071	SO-17360-042413-DR-072	SO-17360-042413-DR-073	SO-17360-042413-DR-074
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	32 U	47 U	40 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	32 U	47 U	40 U
1,1,2-Trichloroethane	ug/kg	32 U	32 U	47 U	40 U
1,1-Dichloroethane	ug/kg	32 U	32 U	47 U	40 U
1,1-Dichloroethene	ug/kg	32 U	32 U	47 U	40 U
1,2,4-Trichlorobenzene	ug/kg	32 U	32 U	47 U	40 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	32 U	47 U	40 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	32 U	47 U	40 U
1,2-Dichlorobenzene	ug/kg	32 U	32 U	47 U	40 U
1,2-Dichloroethane	ug/kg	32 U	32 U	47 U	40 U
1,2-Dichloropropane	ug/kg	32 U	32 U	47 U	40 U
1,3-Dichlorobenzene	ug/kg	32 U	32 U	47 U	40 U
1,4-Dichlorobenzene	ug/kg	32 U	32 U	47 U	40 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	220 U	310 U	270 U
2-Hexanone	ug/kg	32 U	32 U	47 U	40 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	32 U	47 U	40 U
Acetone	ug/kg	110 U	110 U	160 U	130 U
Benzene	ug/kg	32 U	32 U	47 U	40 U
Bromodichloromethane	ug/kg	32 U	32 U	47 U	40 U
Bromoform	ug/kg	32 U	32 U	47 U	40 U
Bromomethane (Methyl bromide)	ug/kg	80 U	81 U	120 U	100 U
Carbon disulfide	ug/kg	32 U	32 U	47 U	40 U
Carbon tetrachloride	ug/kg	32 U	32 U	47 U	40 U
Chlorobenzene	ug/kg	32 U	32 U	47 U	40 U
Chloroethane	ug/kg	110 U	110 U	160 U	130 U
Chloroform (Trichloromethane)	ug/kg	32 U	32 U	47 U	40 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	160 U	130 U
cis-1,2-Dichloroethene	ug/kg	32 U	32 U	47 U	40 U
cis-1,3-Dichloropropene	ug/kg	32 U	32 U	47 U	40 U
Cyclohexane	ug/kg	32 U	32 U	47 U	40 U
Dibromochloromethane	ug/kg	32 U	32 U	47 U	40 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	32 U	47 U	40 U
Ethylbenzene	ug/kg	32 U	32 U	47 U	40 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB243-13	SB243-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-071	SO-17360-042413-DR-072	SO-17360-042413-DR-073	SO-17360-042413-DR-074
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	32 U	47 U	40 U
Methyl acetate	ug/kg	210 U	220 U	310 U	270 U
Methyl cyclohexane	ug/kg	32 U	32 U	47 U	40 U
Methyl tert butyl ether (MTBE)	ug/kg	32 U	32 U	47 U	40 U
Methylene chloride	ug/kg	32 U	32 U	47 U	40 U
Styrene	ug/kg	32 U	32 U	47 U	40 U
Tetrachloroethene	ug/kg	32 U	32 U	47 U	40 U
Toluene	ug/kg	32 U	32 U	47 U	40 U
trans-1,2-Dichloroethene	ug/kg	32 U	32 U	47 U	40 U
trans-1,3-Dichloropropene	ug/kg	32 U	32 U	47 U	40 U
Trichloroethene	ug/kg	32 U	32 U	270	12000
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	32 U	47 U	40 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	32 U	47 U	40 U
Vinyl chloride	ug/kg	32 U	32 U	47 U	40 U
Xylenes (total)	ug/kg	96 U	97 U	140 U	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	850 U	860 U	250 J	95 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB243-13	SB243-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-071	SO-17360-042413-DR-072	SO-17360-042413-DR-073	SO-17360-042413-DR-074
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	300 J	460	610	29 J
Acenaphthylene	ug/kg	320 U	530	350 U	36 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	960	1500	1000	48
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	2900	6200	2100	730
Benzo(a)pyrene	ug/kg	2300	6000	1700	590
Benzo(b)fluoranthene	ug/kg	3700	8500	2700	2100
Benzo(g,h,i)perylene	ug/kg	630	1400	540	1100
Benzo(k)fluoranthene	ug/kg	1300	3900	1300	1100
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	3300	8800	2400	1700
Dibenz(a,h)anthracene	ug/kg	350	190 J	230 J	350
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB243-13	SB243-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-071	SO-17360-042413-DR-072	SO-17360-042413-DR-073	SO-17360-042413-DR-074
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	5800	12000	6300	1400
Fluorene	ug/kg	410	780	390	36 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	620	1500	490	750
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	320 U	320 U	350 U	100
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	4900	5300	5700	1100
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	5100	13000	5200	1800
Metals					
Antimony	ug/kg	210 J	280 J	6700	54000
Arsenic	ug/kg	3100	1300 J	5300	25000
Barium	ug/kg	24000	25000	200000	1200000
Beryllium	ug/kg	130 J	120 J	260 J	210 J
Cadmium	ug/kg	67 J	59 J	5600	38000
Chromium	ug/kg	4900 J	9500 J	120000 J	1300000 J
Cobalt	ug/kg	1600 J	2300	16000	190000
Copper	ug/kg	3900 U	4900 J	270000 J	3300000 J
Iron	ug/kg	4500000	5900000	34000000	170000000
Lead	ug/kg	2600 J	3100 J	580000 J	8500000 J
Manganese	ug/kg	120000	160000	870000	6700000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB243-13	SB243-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-071	SO-17360-042413-DR-072	SO-17360-042413-DR-073	SO-17360-042413-DR-074
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	7 J	8.2 J	54	19 J
Molybdenum	ug/kg	1800 U	1800 U	62000	610000
Nickel	ug/kg	3900 J	5600 J	170000 J	1700000 J
Selenium	ug/kg	240 J	1800 U	540 J	1300 J
Silver	ug/kg	1800 U	1800 U	840 J	16000
Thallium	ug/kg	82 J	1800 U	2100 U	130 J
Vanadium	ug/kg	7500 J	10000 J	15000 J	46000 J
Zinc	ug/kg	10000 J	12000 J	240000 J	2800000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	350 U	390 U	370 U
Aroclor-1260 (PCB-1260)	ug/kg	350 U	350 U	390 U	370 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB244-13	SB244-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-075	SO-17360-042413-DR-076	SO-17360-042413-DR-077	SO-17360-042413-DR-078
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type		Duplicate			
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	36 U	36 U	33 U	35 U
1,1,2,2-Tetrachloroethane	ug/kg	36 U	36 U	33 U	35 U
1,1,2-Trichloroethane	ug/kg	36 U	36 U	33 U	35 U
1,1-Dichloroethane	ug/kg	36 U	36 U	33 U	35 U
1,1-Dichloroethene	ug/kg	36 U	36 U	33 U	35 U
1,2,4-Trichlorobenzene	ug/kg	36 U	36 U	33 U	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	36 U	36 U	33 U	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	36 U	36 U	33 U	35 U
1,2-Dichlorobenzene	ug/kg	36 U	36 U	33 U	35 U
1,2-Dichloroethane	ug/kg	36 U	36 U	33 U	35 U
1,2-Dichloropropane	ug/kg	36 U	36 U	33 U	35 U
1,3-Dichlorobenzene	ug/kg	36 U	36 U	33 U	35 U
1,4-Dichlorobenzene	ug/kg	36 U	36 U	33 U	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	240 U	240 U	220 U	230 U
2-Hexanone	ug/kg	36 U	36 U	33 U	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	36 U	36 U	33 U	35 U
Acetone	ug/kg	120 U	120 U	110 U	120 U
Benzene	ug/kg	36 U	36 U	33 U	35 U
Bromodichloromethane	ug/kg	36 U	36 U	33 U	35 U
Bromoform	ug/kg	36 U	36 U	33 U	35 U
Bromomethane (Methyl bromide)	ug/kg	90 U	91 U	83 U	88 U
Carbon disulfide	ug/kg	36 U	36 U	33 U	35 U
Carbon tetrachloride	ug/kg	36 U	36 U	33 U	35 U
Chlorobenzene	ug/kg	36 U	36 U	33 U	35 U
Chloroethane	ug/kg	120 U	120 U	110 U	120 U
Chloroform (Trichloromethane)	ug/kg	36 U	36 U	33 U	35 U
Chloromethane (Methyl chloride)	ug/kg	120 U	120 U	110 U	120 U
cis-1,2-Dichloroethene	ug/kg	36 U	36 U	33 U	35 U
cis-1,3-Dichloropropene	ug/kg	36 U	36 U	33 U	35 U
Cyclohexane	ug/kg	36 U	36 U	33 U	35 U
Dibromochloromethane	ug/kg	36 U	36 U	33 U	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	36 U	36 U	33 U	35 U
Ethylbenzene	ug/kg	36 U	36 U	33 U	35 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB244-13	SB244-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-075	SO-17360-042413-DR-076	SO-17360-042413-DR-077	SO-17360-042413-DR-078
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type		Duplicate			
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	36 U	36 U	33 U	35 U
Methyl acetate	ug/kg	240 U	240 U	220 U	230 U
Methyl cyclohexane	ug/kg	36 U	36 U	69	35 U
Methyl tert butyl ether (MTBE)	ug/kg	36 U	36 U	33 U	35 U
Methylene chloride	ug/kg	36 U	36 U	33 U	35 U
Styrene	ug/kg	36 U	36 U	33 U	35 U
Tetrachloroethene	ug/kg	36 U	36 U	33 U	35 U
Toluene	ug/kg	36 U	23 J	25 J	32 J
trans-1,2-Dichloroethene	ug/kg	36 U	36 U	33 U	35 U
trans-1,3-Dichloropropene	ug/kg	36 U	36 U	33 U	35 U
Trichloroethene	ug/kg	7500 J	1900 J	2000	230
Trichlorofluoromethane (CFC-11)	ug/kg	36 U	36 U	33 U	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	36 U	36 U	33 U	35 U
Vinyl chloride	ug/kg	36 U	36 U	33 U	35 U
Xylenes (total)	ug/kg	110 U	110 U	69 J	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	93 U	87 U	46 J	91 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB244-13	SB244-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-075	SO-17360-042413-DR-076	SO-17360-042413-DR-077	SO-17360-042413-DR-078
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type		Duplicate			
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	21 J	33 U	33 U	34 U
Acenaphthylene	ug/kg	35 U	33 U	33 U	34 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	55	33 U	150	34 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1400 J	57 J	430	34 U
Benzo(a)pyrene	ug/kg	1800 J	69 J	320	34 U
Benzo(b)fluoranthene	ug/kg	3000 J	160 J	430	34 U
Benzo(g,h,i)perylene	ug/kg	2200 J	170 J	270	34 U
Benzo(k)fluoranthene	ug/kg	2000 J	85 J	360	34 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	2600 J	120 J	470	34 U
Dibenz(a,h)anthracene	ug/kg	730 J	51 J	80	34 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB244-13	SB244-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-075	SO-17360-042413-DR-076	SO-17360-042413-DR-077	SO-17360-042413-DR-078
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type		Duplicate			
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1900 J	96 J	1300	34 U
Fluorene	ug/kg	35 U	33 U	95	34 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	1700 J	150 J	220	34 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	80	33 U	58	34 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1100 J	59 J	1400	34 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1900 J	100 J	1400	34 U
Metals					
Antimony	ug/kg	51000 J	4600 J	1900 J	140 J
Arsenic	ug/kg	24000 J	3000 J	3500	870 J
Barium	ug/kg	1200000	570000	140000	14000
Beryllium	ug/kg	220 J	190 J	380 J	110 J
Cadmium	ug/kg	20000 J	1800 J	1200	160 J
Chromium	ug/kg	1200000 J	500000 J	69000 J	5500 J
Cobalt	ug/kg	120000 J	17000 J	7900	1400 J
Copper	ug/kg	2300000 J	120000 J	99000 J	4700 J
Iron	ug/kg	140000000 J	24000000 J	14000000	3000000
Lead	ug/kg	4700000 J	680000 J	170000 J	5700 J
Manganese	ug/kg	3500000	1400000	500000	53000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB244-13	SB244-13	SB244-13	SB244-13
Sample Identification		SO-17360-042413-DR-075	SO-17360-042413-DR-076	SO-17360-042413-DR-077	SO-17360-042413-DR-078
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type		Duplicate			
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	13 J	8 J	12 J	9.5 J
Molybdenum	ug/kg	430000 J	72000 J	26000	1800 U
Nickel	ug/kg	1200000 J	400000 J	68000 J	4300 J
Selenium	ug/kg	930 J	420 J	430 J	920 J
Silver	ug/kg	10000 J	910 J	240 J	11 J
Thallium	ug/kg	120 J	62 J	67 J	1800 U
Vanadium	ug/kg	34000 J	9400 J	16000 J	8000 J
Zinc	ug/kg	2100000 J	180000 J	190000 J	12000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1248 (PCB-1248)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	370 U	360 U	360 U	360 U
Aroclor-1260 (PCB-1260)	ug/kg	370 U	360 U	360 U	360 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB245-13	SB245-13	SB245-13
Sample Identification		SO-17360-042413-DR-079	SO-17360-042413-DR-080	SO-17360-042413-DR-081	SO-17360-042413-DR-082
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	42 U	40 U	48 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	42 U	40 U	48 U
1,1,2-Trichloroethane	ug/kg	32 U	42 U	40 U	48 U
1,1-Dichloroethane	ug/kg	32 U	42 U	40 U	48 U
1,1-Dichloroethene	ug/kg	32 U	42 U	40 U	48 U
1,2,4-Trichlorobenzene	ug/kg	32 U	42 U	40 U	48 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	42 U	40 U	48 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	42 U	40 U	48 U
1,2-Dichlorobenzene	ug/kg	32 U	42 U	40 U	48 U
1,2-Dichloroethane	ug/kg	32 U	42 U	40 U	48 U
1,2-Dichloropropane	ug/kg	32 U	42 U	40 U	48 U
1,3-Dichlorobenzene	ug/kg	32 U	42 U	40 U	48 U
1,4-Dichlorobenzene	ug/kg	32 U	42 U	40 U	48 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	280 U	270 U	320 U
2-Hexanone	ug/kg	32 U	42 U	40 U	48 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	42 U	40 U	48 U
Acetone	ug/kg	110 U	140 U	130 U	160 U
Benzene	ug/kg	32 U	84	40 U	48 U
Bromodichloromethane	ug/kg	32 U	42 U	40 U	48 U
Bromoform	ug/kg	32 U	42 U	40 U	48 U
Bromomethane (Methyl bromide)	ug/kg	81 U	110 U	99 U	120 U
Carbon disulfide	ug/kg	32 U	42 U	40 U	48 U
Carbon tetrachloride	ug/kg	32 U	42 U	40 U	48 U
Chlorobenzene	ug/kg	32 U	42 U	40 U	48 U
Chloroethane	ug/kg	110 U	140 U	130 U	160 U
Chloroform (Trichloromethane)	ug/kg	32 U	42 U	40 U	48 U
Chloromethane (Methyl chloride)	ug/kg	110 U	140 U	130 U	160 U
cis-1,2-Dichloroethene	ug/kg	32 U	42 U	40 U	48 U
cis-1,3-Dichloropropene	ug/kg	32 U	42 U	40 U	48 U
Cyclohexane	ug/kg	32 U	440	65	48 U
Dibromochloromethane	ug/kg	32 U	42 U	40 U	48 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	42 U	40 U	48 U
Ethylbenzene	ug/kg	32 U	230	28 J	48 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB245-13	SB245-13	SB245-13
Sample Identification		SO-17360-042413-DR-079	SO-17360-042413-DR-080	SO-17360-042413-DR-081	SO-17360-042413-DR-082
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	230	24 J	48 U
Methyl acetate	ug/kg	110 J	140 J	270 U	320 U
Methyl cyclohexane	ug/kg	32 U	1500	210	48 U
Methyl tert butyl ether (MTBE)	ug/kg	32 U	42 U	40 U	48 U
Methylene chloride	ug/kg	32 U	42 U	40 U	48 U
Styrene	ug/kg	32 U	42 U	40 U	48 U
Tetrachloroethene	ug/kg	32 U	42 U	40 U	48 U
Toluene	ug/kg	56	650	100	29 J
trans-1,2-Dichloroethene	ug/kg	32 U	42 U	40 U	48 U
trans-1,3-Dichloropropene	ug/kg	32 U	42 U	40 U	48 U
Trichloroethene	ug/kg	32 U	2900	830	180
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	42 U	40 U	48 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	42 U	40 U	48 U
Vinyl chloride	ug/kg	32 U	42 U	40 U	48 U
Xylenes (total)	ug/kg	97 U	1700	210	150 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	85 U	7100 J	5900 J	32 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB245-13	SB245-13	SB245-13
Sample Identification		SO-17360-042413-DR-079	SO-17360-042413-DR-080	SO-17360-042413-DR-081	SO-17360-042413-DR-082
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	32 U	2000 J	3300 U	33 U
Acenaphthylene	ug/kg	32 U	3200 U	3300 U	33 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	250	44000	36000	470
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1400	69000	58000	1300
Benzo(a)pyrene	ug/kg	1500	61000	50000	1300
Benzo(b)fluoranthene	ug/kg	1600	53000	46000	1300
Benzo(g,h,i)perylene	ug/kg	910	27000	22000	870
Benzo(k)fluoranthene	ug/kg	1200	51000	37000	980
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	1700	66000	53000	1600
Dibenz(a,h)anthracene	ug/kg	290	10000	8500	240
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB245-13	SB245-13	SB245-13
Sample Identification		SO-17360-042413-DR-079	SO-17360-042413-DR-080	SO-17360-042413-DR-081	SO-17360-042413-DR-082
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2800	130000	110000	2700
Fluorene	ug/kg	90	25000	21000	270
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	790	27000	22000	630
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	62	29000	24000	120
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1700	130000	110000	2800
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	3200	140000	110000	3200
Metals					
Antimony	ug/kg	170 J	660 J	460 J	280 J
Arsenic	ug/kg	1500 J	3200	4100	8300
Barium	ug/kg	28000	46000	110000	33000
Beryllium	ug/kg	130 J	480 J	410 J	280 J
Cadmium	ug/kg	93 J	220 J	250 J	100 J
Chromium	ug/kg	8300 J	7900 J	7300 J	4300 J
Cobalt	ug/kg	2300	3200	2800	2400
Copper	ug/kg	5100 J	15000 J	15000 J	8100 J
Iron	ug/kg	6000000	9000000	6900000	4500000
Lead	ug/kg	7300 J	22000 J	18000 J	7400 J
Manganese	ug/kg	170000	150000	160000	120000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB245-13	SB245-13	SB245-13
Sample Identification		SO-17360-042413-DR-079	SO-17360-042413-DR-080	SO-17360-042413-DR-081	SO-17360-042413-DR-082
Sample Date		4/24/2013	4/24/2013	4/24/2013	4/24/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	8.9 J	23 J	20 J	8.8 J
Molybdenum	ug/kg	2000 U	2000 U	2100 U	2000 U
Nickel	ug/kg	5600 J	7800 J	7500 J	6000 J
Selenium	ug/kg	310 J	550 J	840 J	380 J
Silver	ug/kg	54 J	13 J	13 J	14 J
Thallium	ug/kg	2000 U	80 J	200 J	190 J
Vanadium	ug/kg	10000 J	12000 J	11000 J	7300 J
Zinc	ug/kg	17000 J	29000 J	28000 J	13000 J
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	350 U	350 U	360 U
Aroclor-1260 (PCB-1260)	ug/kg	350 U	350 U	350 U	360 U
Total PCBs	ug/kg	0	0	0	0

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB246-13	SB246-13	SB246-13
Sample Identification		SO-17360-042413-DR-083	SO-17360-082013-MR-089 (246-13)	SO-17360-082013-MR-090	SO-17360-082013-MR-091
Sample Date		4/24/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	38 U	34 U	36 U	35 U
1,1,2,2-Tetrachloroethane	ug/kg	38 U	34 U	36 U	35 U
1,1,2-Trichloroethane	ug/kg	38 U	34 U	36 U	35 U
1,1-Dichloroethane	ug/kg	38 U	34 U	36 U	35 U
1,1-Dichloroethene	ug/kg	38 U	34 U	36 U	35 U
1,2,4-Trichlorobenzene	ug/kg	38 U	34 U	36 U	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	38 U	34 U	36 U	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	38 U	34 U	36 U	35 U
1,2-Dichlorobenzene	ug/kg	38 U	34 U	36 U	35 U
1,2-Dichloroethane	ug/kg	38 U	34 U	36 U	35 U
1,2-Dichloropropane	ug/kg	38 U	34 U	36 U	35 U
1,3-Dichlorobenzene	ug/kg	38 U	34 U	36 U	35 U
1,4-Dichlorobenzene	ug/kg	38 U	34 U	36 U	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	230 U	240 U	230 U
2-Hexanone	ug/kg	38 U	34 U	36 U	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	38 U	34 U	36 U	35 U
Acetone	ug/kg	130 U	110 U	120 U	120 U
Benzene	ug/kg	38 U	34 U	36 U	35 U
Bromodichloromethane	ug/kg	38 U	34 U	36 U	35 U
Bromoform	ug/kg	38 U	34 U	36 U	35 U
Bromomethane (Methyl bromide)	ug/kg	95 U	86 U	89 U	86 U
Carbon disulfide	ug/kg	38 U	34 U	36 U	35 U
Carbon tetrachloride	ug/kg	38 U	34 U	36 U	35 U
Chlorobenzene	ug/kg	38 U	34 U	36 U	35 U
Chloroethane	ug/kg	130 U	110 U	120 U	120 U
Chloroform (Trichloromethane)	ug/kg	38 U	34 U	36 U	35 U
Chloromethane (Methyl chloride)	ug/kg	130 U	110 U	120 U	120 U
cis-1,2-Dichloroethene	ug/kg	38 U	34 U	36 U	35 U
cis-1,3-Dichloropropene	ug/kg	38 U	34 U	36 U	35 U
Cyclohexane	ug/kg	38 U	34 U	36 U	35 U
Dibromochloromethane	ug/kg	38 U	34 U	36 U	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	38 U	34 U	36 U	35 U
Ethylbenzene	ug/kg	38 U	34 U	36 U	35 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB246-13	SB246-13	SB246-13
Sample Identification		SO-17360-042413-DR-083	SO-17360-082013-MR-089 (246-13)	SO-17360-082013-MR-090	SO-17360-082013-MR-091
Sample Date		4/24/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	38 U	34 U	36 U	35 U
Methyl acetate	ug/kg	250 U	570	240 U	230 U
Methyl cyclohexane	ug/kg	38 U	26 J	36 U	35 U
Methyl tert butyl ether (MTBE)	ug/kg	38 U	34 U	36 U	35 U
Methylene chloride	ug/kg	38 U	110 U	140 U	120 U
Styrene	ug/kg	38 U	34 U	36 U	35 U
Tetrachloroethene	ug/kg	38 U	34 U	36 U	35 U
Toluene	ug/kg	38 U	34 U	36 U	35 U
trans-1,2-Dichloroethene	ug/kg	38 U	34 U	36 U	35 U
trans-1,3-Dichloropropene	ug/kg	38 U	34 U	36 U	35 U
Trichloroethene	ug/kg	38 U	34 U	36 U	35 U
Trichlorofluoromethane (CFC-11)	ug/kg	38 U	34 U	36 U	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	38 U	34 U	36 U	35 U
Vinyl chloride	ug/kg	38 U	34 U	36 U	35 U
Xylenes (total)	ug/kg	110 U	57 J	110 U	100 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	95 U	290 J	82 U	91
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB246-13	SB246-13	SB246-13
Sample Identification		SO-17360-042413-DR-083	SO-17360-082013-MR-089 (246-13)	SO-17360-082013-MR-090	SO-17360-082013-MR-091
Sample Date		4/24/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	36 U	770	31 U	31 U
Acenaphthylene	ug/kg	36 U	310 U	31 U	31 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	36 U	620	30 J	31
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	36 U	980	21 J	23 J
Benzo(a)pyrene	ug/kg	36 U	780	72	72
Benzo(b)fluoranthene	ug/kg	36 U	1200	62	61
Benzo(g,h,i)perylene	ug/kg	36 U	390	62	60
Benzo(k)fluoranthene	ug/kg	36 U	430	38	36
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	36 U	960	18 J	18 J
Dibenz(a,h)anthracene	ug/kg	36 U	310 U	31 U	31 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB246-13	SB246-13	SB246-13
Sample Identification		SO-17360-042413-DR-083	SO-17360-082013-MR-089 (246-13)	SO-17360-082013-MR-090	SO-17360-082013-MR-091
Sample Date		4/24/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	36 U	2300	65	65
Fluorene	ug/kg	36 U	460	31 U	31 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	36 U	390	36	35
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	36 U	310 U	31 U	71
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	36 U	3600	31 U	48
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	36 U	1800	40	42
Metals					
Antimony	ug/kg	62 J	370 J	67 J	67 J
Arsenic	ug/kg	1000 J	1800	1200	1200
Barium	ug/kg	36000	30000 J	15000 J	15000
Beryllium	ug/kg	150 J	100 J	75 J	81 J
Cadmium	ug/kg	110 J	84 J	28 J	32 J
Chromium	ug/kg	3900 J	5800	3700	4400
Cobalt	ug/kg	2100 J	1800	1300	1300
Copper	ug/kg	2800 U	7000	2600	2600
Iron	ug/kg	4100000	4700000	3700000	4000000
Lead	ug/kg	4700 J	21000	2300	2400
Manganese	ug/kg	430000	120000	81000	81000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB245-13	SB246-13	SB246-13	SB246-13
Sample Identification		SO-17360-042413-DR-083	SO-17360-082013-MR-089 (246-13)	SO-17360-082013-MR-090	SO-17360-082013-MR-091
Sample Date		4/24/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	10 J	10 J	6.4 J	6.2 J
Molybdenum	ug/kg	2100 U	740	220 J	390
Nickel	ug/kg	3200 J	5200	3200	3200
Selenium	ug/kg	700 J	250 J	210 J	240 J
Silver	ug/kg	2100 U	27 J	2.3 J	2.8 J
Thallium	ug/kg	2100 U	42 J	22 J	25 J
Vanadium	ug/kg	6600 J	8000 J	7400	7300
Zinc	ug/kg	12000 J	17000	7900	8200
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	380 U	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	380 U	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	380 U	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	380 U	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	380 U	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	380 U	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	380 U	--	--	--
Total PCBs	ug/kg	0	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB246-13	SB246-13	SB246-13	SB247-13
Sample Identification		SO-17360-082013-MR-092	SO-17360-082013-MR-093	SO-17360-082013-MR-094	SO-17360-082013-MR-085
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	37 U	40 U	37 U	35 U
1,1,2,2-Tetrachloroethane	ug/kg	37 U	40 U	37 U	35 U
1,1,2-Trichloroethane	ug/kg	37 U	40 U	37 U	35 U
1,1-Dichloroethane	ug/kg	37 U	40 U	37 U	35 U
1,1-Dichloroethene	ug/kg	37 U	40 U	37 U	35 U
1,2,4-Trichlorobenzene	ug/kg	37 U	40 U	37 U	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	37 U	40 U	37 U	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	37 U	40 U	37 U	35 U
1,2-Dichlorobenzene	ug/kg	37 U	40 U	37 U	35 U
1,2-Dichloroethane	ug/kg	37 U	40 U	37 U	35 U
1,2-Dichloropropane	ug/kg	37 U	40 U	37 U	35 U
1,3-Dichlorobenzene	ug/kg	37 U	40 U	37 U	35 U
1,4-Dichlorobenzene	ug/kg	37 U	40 U	37 U	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	270 U	250 U	230 U
2-Hexanone	ug/kg	37 U	40 U	37 U	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	37 U	40 U	37 U	35 U
Acetone	ug/kg	120 U	130 U	120 U	120 U
Benzene	ug/kg	37 U	40 U	37 U	35 U
Bromodichloromethane	ug/kg	37 U	40 U	37 U	35 U
Bromoform	ug/kg	37 U	40 U	37 U	35 U
Bromomethane (Methyl bromide)	ug/kg	94 U	100 U	93 U	86 U
Carbon disulfide	ug/kg	37 U	40 U	37 U	35 U
Carbon tetrachloride	ug/kg	37 U	40 U	37 U	35 U
Chlorobenzene	ug/kg	37 U	40 U	37 U	35 U
Chloroethane	ug/kg	120 U	130 U	120 U	120 U
Chloroform (Trichloromethane)	ug/kg	37 U	40 U	37 U	35 U
Chloromethane (Methyl chloride)	ug/kg	120 U	130 U	120 U	120 U
cis-1,2-Dichloroethene	ug/kg	37 U	40 U	37 U	35 U
cis-1,3-Dichloropropene	ug/kg	37 U	40 U	37 U	35 U
Cyclohexane	ug/kg	37 U	40 U	37 U	35 U
Dibromochloromethane	ug/kg	37 U	40 U	37 U	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	37 U	40 U	37 U	35 U
Ethylbenzene	ug/kg	37 U	40 U	37 U	35 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB246-13	SB246-13	SB246-13	SB247-13
Sample Identification		SO-17360-082013-MR-092	SO-17360-082013-MR-093	SO-17360-082013-MR-094	SO-17360-082013-MR-085
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	37 U	40 U	37 U	35 U
Methyl acetate	ug/kg	250 U	270 U	250 U	110 J
Methyl cyclohexane	ug/kg	37 U	40 U	37 U	35 U
Methyl tert butyl ether (MTBE)	ug/kg	37 U	40 U	37 U	35 U
Methylene chloride	ug/kg	120 U	120 U	93 U	35 U
Styrene	ug/kg	37 U	40 U	37 U	35 U
Tetrachloroethene	ug/kg	37 U	40 U	37 U	35 U
Toluene	ug/kg	37 U	40 U	37 U	35
trans-1,2-Dichloroethene	ug/kg	37 U	40 U	37 U	35 U
trans-1,3-Dichloropropene	ug/kg	37 U	40 U	37 U	35 U
Trichloroethene	ug/kg	37 U	40 U	37 U	35 U
Trichlorofluoromethane (CFC-11)	ug/kg	37 U	40 U	37 U	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	37 U	40 U	37 U	35 U
Vinyl chloride	ug/kg	37 U	40 U	37 U	35 U
Xylenes (total)	ug/kg	110 U	120 U	110 U	120
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	82 U	84 U	96 U	820 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB246-13	SB246-13	SB246-13	SB247-13
Sample Identification		SO-17360-082013-MR-092	SO-17360-082013-MR-093	SO-17360-082013-MR-094	SO-17360-082013-MR-085
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	31 U	32 U	36 U	310 U
Acenaphthylene	ug/kg	31 U	32 U	36 U	310 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	30 J	32 U	36 U	250 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	120	37	36 U	710
Benzo(a)pyrene	ug/kg	93	24 J	36 U	470
Benzo(b)fluoranthene	ug/kg	170	41	36 U	770
Benzo(g,h,i)perylene	ug/kg	69	32 U	36 U	250 J
Benzo(k)fluoranthene	ug/kg	55	32 U	36 U	280 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	130	34	36 U	640
Dibenz(a,h)anthracene	ug/kg	19 J	32 U	36 U	310 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB246-13	SB246-13	SB246-13	SB247-13
Sample Identification		SO-17360-082013-MR-092	SO-17360-082013-MR-093	SO-17360-082013-MR-094	SO-17360-082013-MR-085
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	210	55	36 U	1600
Fluorene	ug/kg	31 U	32 U	36 U	310 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	67	32 U	36 U	250 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	31 U	32 U	36 U	310 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	140	39	36 U	1500
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	170	51	36 U	1500
Metals					
Antimony	ug/kg	48 J	62 J	82 J	260 J
Arsenic	ug/kg	1100	1000	1200	1500
Barium	ug/kg	13000 J	22000 J	32000 J	25000 J
Beryllium	ug/kg	84 J	110 J	130 J	71 J
Cadmium	ug/kg	32 J	39 J	100 J	76 J
Chromium	ug/kg	4000	5000	5500	5800
Cobalt	ug/kg	1300	1800	1700	2000
Copper	ug/kg	2400	2100	3800	6900
Iron	ug/kg	3700000	4500000	4600000	4700000
Lead	ug/kg	2400	3600	5200	51000
Manganese	ug/kg	72000	78000	120000	150000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB246-13**	**SB246-13**	**SB246-13**	**SB247-13**
Sample Identification		**SO-17360-082013-MR-092**	**SO-17360-082013-MR-093**	**SO-17360-082013-MR-094**	**SO-17360-082013-MR-085**
Sample Date		**8/20/2013**	**8/20/2013**	**8/20/2013**	**8/20/2013**
Sample Type					
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 40**	**AOI 40**	**AOI 40**	**AOI 40**
Metals (continued)					
Mercury	ug/kg	6.2 J	12 J	25 J	17 J
Molybdenum	ug/kg	240 J	180 J	230 J	320 J
Nickel	ug/kg	3300	4100	4100	4800
Selenium	ug/kg	240 J	350 J	530	320 J
Silver	ug/kg	2 J	7.7 J	11 J	380 U
Thallium	ug/kg	21 J	76 J	56 J	380 U
Vanadium	ug/kg	7100 J	8900 J	9000 J	8300
Zinc	ug/kg	7600	9500	14000	15000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB247-13	SB247-13	SB247-13	SB247-13
Sample Identification		SO-17360-082013-MR-086	SO-17360-082013-MR-087	SO-17360-082013-MR-088	SO-17360-082013-MR-089
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	59 U	34 U	39 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	59 U	34 U	39 U
1,1,2-Trichloroethane	ug/kg	32 U	59 U	34 U	39 U
1,1-Dichloroethane	ug/kg	32 U	59 U	34 U	39 U
1,1-Dichloroethene	ug/kg	32 U	59 U	34 U	39 U
1,2,4-Trichlorobenzene	ug/kg	32 U	59 U	34 U	39 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	59 U	34 U	39 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	59 U	34 U	39 U
1,2-Dichlorobenzene	ug/kg	32 U	59 U	34 U	39 U
1,2-Dichloroethane	ug/kg	32 U	59 U	34 U	39 U
1,2-Dichloropropane	ug/kg	32 U	59 U	34 U	39 U
1,3-Dichlorobenzene	ug/kg	32 U	59 U	34 U	39 U
1,4-Dichlorobenzene	ug/kg	32 U	59 U	34 U	39 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	390 U	230 U	260 U
2-Hexanone	ug/kg	32 U	59 U	34 U	39 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	59 U	34 U	39 U
Acetone	ug/kg	110 U	200 U	110 U	130 U
Benzene	ug/kg	32 U	59 U	15 J	39 U
Bromodichloromethane	ug/kg	32 U	59 U	34 U	39 U
Bromoform	ug/kg	32 U	59 U	34 U	39 U
Bromomethane (Methyl bromide)	ug/kg	80 U	150 U	84 U	98 U
Carbon disulfide	ug/kg	32 U	59 U	34 U	39 U
Carbon tetrachloride	ug/kg	32 U	59 U	34 U	39 U
Chlorobenzene	ug/kg	32 U	59 U	34 U	39 U
Chloroethane	ug/kg	110 U	200 U	110 U	130 U
Chloroform (Trichloromethane)	ug/kg	32 U	59 U	34 U	39 U
Chloromethane (Methyl chloride)	ug/kg	110 U	200 U	110 U	130 U
cis-1,2-Dichloroethene	ug/kg	32 U	59 U	34 U	39 U
cis-1,3-Dichloropropene	ug/kg	32 U	59 U	34 U	39 U
Cyclohexane	ug/kg	32 U	59 U	38	39 U
Dibromochloromethane	ug/kg	32 U	59 U	34 U	39 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	59 U	34 U	39 U
Ethylbenzene	ug/kg	32 U	59 U	20 J	39 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB247-13	SB247-13	SB247-13	SB247-13
Sample Identification		SO-17360-082013-MR-086	SO-17360-082013-MR-087	SO-17360-082013-MR-088	SO-17360-082013-MR-089
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	59 U	31 J	39 U
Methyl acetate	ug/kg	210 U	390 U	230 U	260 U
Methyl cyclohexane	ug/kg	32 U	120	140	39 U
Methyl tert butyl ether (MTBE)	ug/kg	32 U	59 U	34 U	39 U
Methylene chloride	ug/kg	58 U	98 U	73 U	110 U
Styrene	ug/kg	32 U	59 U	34 U	39 U
Tetrachloroethene	ug/kg	32 U	59 U	34 U	39 U
Toluene	ug/kg	32 U	71	52	39 U
trans-1,2-Dichloroethene	ug/kg	32 U	59 U	34 U	39 U
trans-1,3-Dichloropropene	ug/kg	32 U	59 U	34 U	39 U
Trichloroethene	ug/kg	32 U	59 U	100	39 U
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	59 U	34 U	39 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	59 U	34 U	39 U
Vinyl chloride	ug/kg	32 U	59 U	34 U	39 U
Xylenes (total)	ug/kg	96 U	130 J	160	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	83 U	190	91	88 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB247-13**	**SB247-13**	**SB247-13**	**SB247-13**
Sample Identification		**SO-17360-082013-MR-086**	**SO-17360-082013-MR-087**	**SO-17360-082013-MR-088**	**SO-17360-082013-MR-089**
Sample Date		**8/20/2013**	**8/20/2013**	**8/20/2013**	**8/20/2013**
Sample Type					
Sample Depth		**(2-4) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 40**	**AOI 40**	**AOI 40**	**AOI 40**
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	31 U	32 U	32 U	33 U
Acenaphthylene	ug/kg	31 U	27 J	32 U	33 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	31 U	42	34	33 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	31 U	47	27 J	33 U
Benzo(a)pyrene	ug/kg	31 U	92	79	33 U
Benzo(b)fluoranthene	ug/kg	31 U	98	77	33 U
Benzo(g,h,i)perylene	ug/kg	31 U	83	72	33 U
Benzo(k)fluoranthene	ug/kg	31 U	49	41	33 U
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	31 U	63	37	33 U
Dibenz(a,h)anthracene	ug/kg	31 U	32 U	32 U	33 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB247-13	SB247-13	SB247-13	SB247-13
Sample Identification		SO-17360-082013-MR-086	SO-17360-082013-MR-087	SO-17360-082013-MR-088	SO-17360-082013-MR-089
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	31 U	92	66	33 U
Fluorene	ug/kg	31 U	32 U	32 U	33 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	31 U	63	49	33 U
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	31 U	130	58	33 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	31 U	120	57	33 U
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	31 U	70	41	33 U
Metals					
Antimony	ug/kg	46 J	160 J	110 J	62 J
Arsenic	ug/kg	1200	2200	1400	1200
Barium	ug/kg	36000 J	29000 J	37000 J	19000 J
Beryllium	ug/kg	110 J	210	150 J	110 J
Cadmium	ug/kg	57 J	140 J	73 J	43 J
Chromium	ug/kg	6600	5400	5700	5600
Cobalt	ug/kg	3000	3400	2100	2300
Copper	ug/kg	5500	8800	4200	2500
Iron	ug/kg	8500000	7800000	6500000	5000000
Lead	ug/kg	4600	6200	4600	3800
Manganese	ug/kg	300000	190000	200000	89000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB247-13	SB247-13	SB247-13	SB247-13
Sample Identification		SO-17360-082013-MR-086	SO-17360-082013-MR-087	SO-17360-082013-MR-088	SO-17360-082013-MR-089
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	8.7 J	210	12 J	17 J
Molybdenum	ug/kg	230 J	680	350 J	220 J
Nickel	ug/kg	5600	12000	5300	4900
Selenium	ug/kg	410	520	370 J	390
Silver	ug/kg	380 U	400 U	6 J	6.8 J
Thallium	ug/kg	380 U	400 U	57 J	44 J
Vanadium	ug/kg	23000	11000	11000 J	9500 J
Zinc	ug/kg	15000	14000	17000	10000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB248-13	SB248-13
Sample Identification		SO-17360-082013-MR-078	SO-17360-082013-MR-079	SO-17360-082013-MR-080	SO-17360-082013-MR-081
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	33 U	32 U	33 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	33 U	32 U	33 U	33 U
1,1,2-Trichloroethane	ug/kg	33 U	32 U	33 U	33 U
1,1-Dichloroethane	ug/kg	33 U	32 U	33 U	33 U
1,1-Dichloroethene	ug/kg	33 U	32 U	33 U	33 U
1,2,4-Trichlorobenzene	ug/kg	33 U	32 U	33 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	33 U	32 U	33 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	33 U	32 U	33 U	33 U
1,2-Dichlorobenzene	ug/kg	33 U	32 U	33 U	33 U
1,2-Dichloroethane	ug/kg	33 U	32 U	33 U	33 U
1,2-Dichloropropane	ug/kg	33 U	32 U	33 U	33 U
1,3-Dichlorobenzene	ug/kg	33 U	32 U	33 U	33 U
1,4-Dichlorobenzene	ug/kg	33 U	32 U	33 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	210 U	220 U	220 U
2-Hexanone	ug/kg	33 U	32 U	33 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	33 U	32 U	33 U	33 U
Acetone	ug/kg	110 U	110 U	110 U	110 U
Benzene	ug/kg	33 U	39	33 U	110
Bromodichloromethane	ug/kg	33 U	32 U	33 U	33 U
Bromoform	ug/kg	33 U	32 U	33 U	33 U
Bromomethane (Methyl bromide)	ug/kg	84 U	79 U	83 U	84 U
Carbon disulfide	ug/kg	33 U	32 U	33 U	33 U
Carbon tetrachloride	ug/kg	33 U	32 U	33 U	33 U
Chlorobenzene	ug/kg	33 U	32 U	33 U	33 U
Chloroethane	ug/kg	110 U	110 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	33 U	32 U	33 U	33 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	33 U	32 U	33 U	33 U
cis-1,3-Dichloropropene	ug/kg	33 U	32 U	33 U	33 U
Cyclohexane	ug/kg	33 U	32 U	33 U	33 U
Dibromochloromethane	ug/kg	33 U	32 U	33 U	33 U
Dichlorodifluoromethane (CFC-12)	ug/kg	33 U	32 U	33 U	33 U
Ethylbenzene	ug/kg	33 U	21 J	33 U	84

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB248-13	SB248-13
Sample Identification		SO-17360-082013-MR-078	SO-17360-082013-MR-079	SO-17360-082013-MR-080	SO-17360-082013-MR-081
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	33 U	32 U	33 U	42
Methyl acetate	ug/kg	100 J	210 U	220 U	220 U
Methyl cyclohexane	ug/kg	33 U	32 U	33 U	140 J
Methyl tert butyl ether (MTBE)	ug/kg	33 U	32 U	33 U	33 U
Methylene chloride	ug/kg	33 U	32 U	33 U	33 U
Styrene	ug/kg	33 U	32 U	33 U	33 U
Tetrachloroethene	ug/kg	33 U	32 U	33 U	33 U
Toluene	ug/kg	32 J	150	33 U	400
trans-1,2-Dichloroethene	ug/kg	33 U	32 U	33 U	33 U
trans-1,3-Dichloropropene	ug/kg	33 U	32 U	33 U	33 U
Trichloroethene	ug/kg	33 U	32 U	33 U	33 U
Trichlorofluoromethane (CFC-11)	ug/kg	33 U	32 U	33 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	33 U	32 U	33 U	33 U
Vinyl chloride	ug/kg	33 U	32 U	33 U	33 U
Xylenes (total)	ug/kg	56 J	79 J	99 U	340
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	830 U	26 J	85 U	82 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB248-13	SB248-13
Sample Identification		SO-17360-082013-MR-078	SO-17360-082013-MR-079	SO-17360-082013-MR-080	SO-17360-082013-MR-081
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	310 U	31 U	32 U	31 U
Acenaphthylene	ug/kg	310 U	28 J	31 J	31
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	700	39	41	41
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1000	60	72	98
Benzo(a)pyrene	ug/kg	1300	110	120	140
Benzo(b)fluoranthene	ug/kg	1400	110	140	160
Benzo(g,h,i)perylene	ug/kg	960	90	120	120
Benzo(k)fluoranthene	ug/kg	700	59	68	68
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	920	59	100	100
Dibenz(a,h)anthracene	ug/kg	730	73	77	80
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB248-13	SB248-13
Sample Identification		SO-17360-082013-MR-078	SO-17360-082013-MR-079	SO-17360-082013-MR-080	SO-17360-082013-MR-081
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2700	110	140	140
Fluorene	ug/kg	310 U	31 U	32 U	31 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	950	80	100	120
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	310 U	31 U	32 U	31 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	2100	55	56	54
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	2300	99	110	140
Metals					
Antimony	ug/kg	260 J	100 J	87 J	87 J
Arsenic	ug/kg	1700	1400	1100	1100
Barium	ug/kg	34000 J	21000 J	21000 J	21000
Beryllium	ug/kg	100 J	96 J	110 J	83 J
Cadmium	ug/kg	80 J	77 J	87 J	61 J
Chromium	ug/kg	5600	4300	6200	4600
Cobalt	ug/kg	1900	1700	2000	1600
Copper	ug/kg	5900	5200	5600	3800
Iron	ug/kg	5000000	4400000	5400000	4400000
Lead	ug/kg	32000	6000	11000	5900
Manganese	ug/kg	160000	170000	170000	170000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB248-13	SB248-13
Sample Identification		SO-17360-082013-MR-078	SO-17360-082013-MR-079	SO-17360-082013-MR-080	SO-17360-082013-MR-081
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					Duplicate
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	22 J	37 U	16 J	37 U
Molybdenum	ug/kg	370 J	270 J	250 J	310 J
Nickel	ug/kg	4800	3900	4800	3700
Selenium	ug/kg	350 J	390 J	370 J	330 J
Silver	ug/kg	380 U	400 U	380 U	400 U
Thallium	ug/kg	380 U	400 U	380 U	400 U
Vanadium	ug/kg	8500	8300	11000	7400
Zinc	ug/kg	20000	15000	14000	11000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB249-13	SB249-13
Sample Identification		SO-17360-082013-MR-082	SO-17360-082013-MR-084	SO-17360-082013-MR-073	SO-17360-082013-MR-074
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	32 U	34 U	32 U	45 U
1,1,2,2-Tetrachloroethane	ug/kg	32 U	34 U	32 U	45 U
1,1,2-Trichloroethane	ug/kg	32 U	34 U	32 U	45 U
1,1-Dichloroethane	ug/kg	32 U	34 U	32 U	45 U
1,1-Dichloroethene	ug/kg	32 U	34 U	32 U	45 U
1,2,4-Trichlorobenzene	ug/kg	32 U	34 U	32 U	45 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	32 U	34 U	32 U	45 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	32 U	34 U	32 U	45 U
1,2-Dichlorobenzene	ug/kg	32 U	34 U	32 U	45 U
1,2-Dichloroethane	ug/kg	32 U	34 U	32 U	45 U
1,2-Dichloropropane	ug/kg	32 U	34 U	32 U	45 U
1,3-Dichlorobenzene	ug/kg	32 U	34 U	32 U	45 U
1,4-Dichlorobenzene	ug/kg	32 U	34 U	32 U	45 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	210 U	230 U	210 U	300 U
2-Hexanone	ug/kg	32 U	34 U	32 U	45 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	32 U	34 U	32 U	45 U
Acetone	ug/kg	110 U	110 U	110 U	150 U
Benzene	ug/kg	32 U	34 U	32 U	45 U
Bromodichloromethane	ug/kg	32 U	34 U	32 U	45 U
Bromoform	ug/kg	32 U	34 U	32 U	45 U
Bromomethane (Methyl bromide)	ug/kg	80 U	86 U	81 U	110 U
Carbon disulfide	ug/kg	32 U	34 U	32 U	45 U
Carbon tetrachloride	ug/kg	32 U	34 U	32 U	45 U
Chlorobenzene	ug/kg	32 U	34 U	32 U	45 U
Chloroethane	ug/kg	110 U	110 U	110 U	150 U
Chloroform (Trichloromethane)	ug/kg	32 U	34 U	32 U	45 U
Chloromethane (Methyl chloride)	ug/kg	110 U	110 U	110 U	150 U
cis-1,2-Dichloroethene	ug/kg	32 U	34 U	32 U	45 U
cis-1,3-Dichloropropene	ug/kg	32 U	34 U	32 U	45 U
Cyclohexane	ug/kg	32 U	34 U	32 U	45 U
Dibromochloromethane	ug/kg	32 U	34 U	32 U	45 U
Dichlorodifluoromethane (CFC-12)	ug/kg	32 U	34 U	32 U	45 U
Ethylbenzene	ug/kg	32 U	38	32 U	45 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB249-13	SB249-13
Sample Identification		SO-17360-082013-MR-082	SO-17360-082013-MR-084	SO-17360-082013-MR-073	SO-17360-082013-MR-074
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	32 U	34 U	32 U	45 U
Methyl acetate	ug/kg	210 U	590	100 J	300 U
Methyl cyclohexane	ug/kg	32 U	34 U	32 U	360
Methyl tert butyl ether (MTBE)	ug/kg	32 U	34 U	32 U	45 U
Methylene chloride	ug/kg	32 U	34 U	32 U	45 U
Styrene	ug/kg	32 U	34 U	32 U	45 U
Tetrachloroethene	ug/kg	32 U	34 U	32 U	45 U
Toluene	ug/kg	32 U	34 U	32 U	43 J
trans-1,2-Dichloroethene	ug/kg	32 U	34 U	32 U	45 U
trans-1,3-Dichloropropene	ug/kg	32 U	34 U	32 U	45 U
Trichloroethene	ug/kg	32 U	34 U	460	5000
Trichlorofluoromethane (CFC-11)	ug/kg	32 U	34 U	32 U	45 U
Trifluorotrichloroethane (Freon 113)	ug/kg	32 U	34 U	32 U	45 U
Vinyl chloride	ug/kg	32 U	34 U	32 U	45 U
Xylenes (total)	ug/kg	97 U	230	97 U	150
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	83 U	83 U	860 U	82 J
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB249-13	SB249-13
Sample Identification		SO-17360-082013-MR-082	SO-17360-082013-MR-084	SO-17360-082013-MR-073	SO-17360-082013-MR-074
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	31 U	31 U	320 U	19 J
Acenaphthylene	ug/kg	31 U	31 U	320 U	26 J
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	47	31 J	540	70
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	89	28 J	870	280
Benzo(a)pyrene	ug/kg	120	78	1200	260
Benzo(b)fluoranthene	ug/kg	130	68	1300	380
Benzo(g,h,i)perylene	ug/kg	80	67	980	190
Benzo(k)fluoranthene	ug/kg	60	42	640	150
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	84	25 J	780	320
Dibenz(a,h)anthracene	ug/kg	67	31 U	740	110
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB248-13	SB248-13	SB249-13	SB249-13
Sample Identification		SO-17360-082013-MR-082	SO-17360-082013-MR-084	SO-17360-082013-MR-073	SO-17360-082013-MR-074
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	170	70	2100	450
Fluorene	ug/kg	31 U	31 U	320 U	32 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	65	45	930	230
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	31 U	31 U	320 U	47
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	110	31 U	1500	330
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	140	49	1700	510
Metals					
Antimony	ug/kg	43 J	73 J	530	380 J
Arsenic	ug/kg	950	1000	2300	8100
Barium	ug/kg	12000 J	11000 J	44000 J	83000 J
Beryllium	ug/kg	63 J	62 J	110 J	400
Cadmium	ug/kg	45 J	38 J	220	130 J
Chromium	ug/kg	3600	8400	48000	5400
Cobalt	ug/kg	1300	1500	3100	3500
Copper	ug/kg	2400	2900	16000	14000
Iron	ug/kg	3900000	3900000	9700000	4200000
Lead	ug/kg	2500	3600	44000	12000
Manganese	ug/kg	93000	98000	220000	56000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB248-13**	**SB248-13**	**SB249-13**	**SB249-13**
Sample Identification		**SO-17360-082013-MR-082**	**SO-17360-082013-MR-084**	**SO-17360-082013-MR-073**	**SO-17360-082013-MR-074**
Sample Date		**8/20/2013**	**8/20/2013**	**8/20/2013**	**8/20/2013**
Sample Type					
Sample Depth		**(6-8) ft BGS**	**(8-10) ft BGS**	**(0-2) ft BGS**	**(2-4) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 40**	**AOI 40**	**AOI 40**	**AOI 40**
Metals (continued)					
Mercury	ug/kg	38 U	7.1 J	27 J	22 J
Molybdenum	ug/kg	140 J	1600	6200	1000
Nickel	ug/kg	3200	3900	42000	10000
Selenium	ug/kg	240 J	330 J	420	550
Silver	ug/kg	370 U	380 U	130 J	36 J
Thallium	ug/kg	370 U	380 U	390 U	400 U
Vanadium	ug/kg	6100	6700	10000	7400
Zinc	ug/kg	14000	8200	30000	13000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB249-13	SB249-13	SB249-13	SB250-13
Sample Identification		SO-17360-082013-MR-075	SO-17360-082013-MR-076	SO-17360-082013-MR-077	SO-17360-082013-MR-067
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	74 U	42 U	34 U	38 U
1,1,2,2-Tetrachloroethane	ug/kg	74 U	42 U	34 U	38 U
1,1,2-Trichloroethane	ug/kg	74 U	42 U	34 U	38 U
1,1-Dichloroethane	ug/kg	74 U	42 U	34 U	38 U
1,1-Dichloroethene	ug/kg	74 U	42 U	34 U	38 U
1,2,4-Trichlorobenzene	ug/kg	74 U	42 U	34 U	38 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	74 U	42 U	34 U	38 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	74 U	42 U	34 U	38 U
1,2-Dichlorobenzene	ug/kg	74 U	42 U	34 U	38 U
1,2-Dichloroethane	ug/kg	74 U	42 U	34 U	38 U
1,2-Dichloropropane	ug/kg	74 U	42 U	34 U	38 U
1,3-Dichlorobenzene	ug/kg	74 U	42 U	34 U	38 U
1,4-Dichlorobenzene	ug/kg	74 U	42 U	34 U	38 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	490 U	280 U	220 U	250 U
2-Hexanone	ug/kg	74 U	42 U	34 U	38 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	74 U	42 U	34 U	38 U
Acetone	ug/kg	250 U	140 U	110 U	130 U
Benzene	ug/kg	74 U	42 U	1200	38 U
Bromodichloromethane	ug/kg	74 U	42 U	34 U	38 U
Bromoform	ug/kg	74 U	42 U	34 U	38 U
Bromomethane (Methyl bromide)	ug/kg	180 U	100 U	84 U	94 U
Carbon disulfide	ug/kg	74 U	42 U	34 U	38 U
Carbon tetrachloride	ug/kg	74 U	42 U	34 U	38 U
Chlorobenzene	ug/kg	74 U	42 U	34 U	38 U
Chloroethane	ug/kg	250 U	140 U	110 U	130 U
Chloroform (Trichloromethane)	ug/kg	74 U	42 U	34 U	38 U
Chloromethane (Methyl chloride)	ug/kg	250 U	140 U	110 U	130 U
cis-1,2-Dichloroethene	ug/kg	74 U	42 U	34 U	38 U
cis-1,3-Dichloropropene	ug/kg	74 U	42 U	34 U	38 U
Cyclohexane	ug/kg	74 U	42 U	92	38 U
Dibromochloromethane	ug/kg	74 U	42 U	34 U	38 U
Dichlorodifluoromethane (CFC-12)	ug/kg	74 U	42 U	34 U	38 U
Ethylbenzene	ug/kg	74 U	42 U	250	23 J

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB249-13	SB249-13	SB249-13	SB250-13
Sample Identification		SO-17360-082013-MR-075	SO-17360-082013-MR-076	SO-17360-082013-MR-077	SO-17360-082013-MR-067
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	74 U	42 U	75	38 U
Methyl acetate	ug/kg	490 U	280 U	220 U	110 J
Methyl cyclohexane	ug/kg	74 U	42 U	220	38 U
Methyl tert butyl ether (MTBE)	ug/kg	74 U	42 U	34 U	38 U
Methylene chloride	ug/kg	74 U	42 U	34 U	82 U
Styrene	ug/kg	74 U	42 U	34 U	38 U
Tetrachloroethene	ug/kg	74 U	42 U	34 U	38 U
Toluene	ug/kg	74 U	42 U	1900	38 U
trans-1,2-Dichloroethene	ug/kg	74 U	42 U	34 U	38 U
trans-1,3-Dichloropropene	ug/kg	74 U	42 U	34 U	38 U
Trichloroethene	ug/kg	1600	890	630	38 U
Trichlorofluoromethane (CFC-11)	ug/kg	74 U	42 U	34 U	38 U
Trifluorotrichloroethane (Freon 113)	ug/kg	74 U	42 U	34 U	38 U
Vinyl chloride	ug/kg	74 U	42 U	34 U	38 U
Xylenes (total)	ug/kg	220 U	120 U	790	110 J
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	35 J	23 J	39 J	830 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB249-13	SB249-13	SB249-13	SB250-13
Sample Identification		SO-17360-082013-MR-075	SO-17360-082013-MR-076	SO-17360-082013-MR-077	SO-17360-082013-MR-067
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	49 U	32 U	31 U	270 J
Acenaphthylene	ug/kg	49 U	32 U	25 J	310 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	56	32 J	38	730
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	56	22 J	60	1200
Benzo(a)pyrene	ug/kg	130	76	100	1400
Benzo(b)fluoranthene	ug/kg	130	73	100	1600
Benzo(g,h,i)perylene	ug/kg	120	73	86	1100
Benzo(k)fluoranthene	ug/kg	67	42	56	750
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	67	24 J	53	1100
Dibenz(a,h)anthracene	ug/kg	49 U	32 U	72	740
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB249-13	SB249-13	SB249-13	SB250-13
Sample Identification		SO-17360-082013-MR-075	SO-17360-082013-MR-076	SO-17360-082013-MR-077	SO-17360-082013-MR-067
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	140	65	92	3200
Fluorene	ug/kg	49 U	32 U	31 U	310 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	75	48	75	1200
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	49 U	32 U	29 J	310 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	96	38	42	3000
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	87	38	76	2700
Metals					
Antimony	ug/kg	800	270 J	110 J	940
Arsenic	ug/kg	9500	9200	1400	2000
Barium	ug/kg	120000 J	53000 J	41000 J	56000 J
Beryllium	ug/kg	680	200	130 J	110 J
Cadmium	ug/kg	100 J	62 J	120 J	260
Chromium	ug/kg	7300	5700	5400	11000
Cobalt	ug/kg	5500	1900	1800	2500
Copper	ug/kg	21000	4200	4200	12000
Iron	ug/kg	5300000	4900000	4900000	7400000
Lead	ug/kg	24000	5500	6600	110000
Manganese	ug/kg	76000	220000	270000	170000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB249-13	SB249-13	SB249-13	SB250-13
Sample Identification		SO-17360-082013-MR-075	SO-17360-082013-MR-076	SO-17360-082013-MR-077	SO-17360-082013-MR-067
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	43 U	39 U	20 J	30 J
Molybdenum	ug/kg	2300	580	360 J	2300
Nickel	ug/kg	12000	4700	4000	9500
Selenium	ug/kg	1100	490	370 J	500
Silver	ug/kg	36 J	380 U	380 U	340 J
Thallium	ug/kg	360 J	380 U	380 U	400 U
Vanadium	ug/kg	13000	8900	7900	14000
Zinc	ug/kg	14000	13000	18000	26000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB250-13	SB250-13	SB250-13
Sample Identification		SO-17360-082013-MR-068	SO-17360-082013-MR-069	SO-17360-082013-MR-070	SO-17360-082013-MR-071
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Duplicate	
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	37 U	35 U	34 U	32 U
1,1,2,2-Tetrachloroethane	ug/kg	37 U	35 U	34 U	32 U
1,1,2-Trichloroethane	ug/kg	37 U	35 U	34 U	32 U
1,1-Dichloroethane	ug/kg	37 U	35 U	34 U	32 U
1,1-Dichloroethene	ug/kg	37 U	35 U	34 U	32 U
1,2,4-Trichlorobenzene	ug/kg	37 U	35 U	34 U	32 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	37 U	35 U	34 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	37 U	35 U	34 U	32 U
1,2-Dichlorobenzene	ug/kg	37 U	35 U	34 U	32 U
1,2-Dichloroethane	ug/kg	37 U	35 U	34 U	32 U
1,2-Dichloropropane	ug/kg	37 U	35 U	34 U	32 U
1,3-Dichlorobenzene	ug/kg	37 U	35 U	34 U	32 U
1,4-Dichlorobenzene	ug/kg	37 U	35 U	34 U	32 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	250 U	230 U	220 U	210 U
2-Hexanone	ug/kg	37 U	35 U	34 U	32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	37 U	35 U	34 U	32 U
Acetone	ug/kg	120 U	120 U	110 U	110 U
Benzene	ug/kg	26 J	35 U	34 U	32 U
Bromodichloromethane	ug/kg	37 U	35 U	34 U	32 U
Bromoform	ug/kg	37 U	35 U	34 U	32 U
Bromomethane (Methyl bromide)	ug/kg	92 U	87 U	84 U	80 U
Carbon disulfide	ug/kg	37 U	35 U	34 U	32 U
Carbon tetrachloride	ug/kg	37 U	35 U	34 U	32 U
Chlorobenzene	ug/kg	37 U	35 U	34 U	32 U
Chloroethane	ug/kg	120 U	120 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	37 U	35 U	34 U	32 U
Chloromethane (Methyl chloride)	ug/kg	120 U	120 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	37 U	35 U	34 U	32 U
cis-1,3-Dichloropropene	ug/kg	37 U	35 U	34 U	32 U
Cyclohexane	ug/kg	37 U	35 U	34 U	32 U
Dibromochloromethane	ug/kg	37 U	35 U	34 U	32 U
Dichlorodifluoromethane (CFC-12)	ug/kg	37 U	35 U	34 U	32 U
Ethylbenzene	ug/kg	27 J	35 U	34 U	32 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB250-13	SB250-13	SB250-13
Sample Identification		SO-17360-082013-MR-068	SO-17360-082013-MR-069	SO-17360-082013-MR-070	SO-17360-082013-MR-071
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Duplicate	
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	37 U	35 U	34 U	32 U
Methyl acetate	ug/kg	250 U	230 U	220 U	210 U
Methyl cyclohexane	ug/kg	37 U	35 U	34 U	32 U
Methyl tert butyl ether (MTBE)	ug/kg	37 U	35 U	34 U	32 U
Methylene chloride	ug/kg	86 U	35 U	34 U	32 U
Styrene	ug/kg	37 U	35 U	34 U	32 U
Tetrachloroethene	ug/kg	37 U	35 U	34 U	32 U
Toluene	ug/kg	52	35 U	34 U	28 J
trans-1,2-Dichloroethene	ug/kg	37 U	35 U	34 U	32 U
trans-1,3-Dichloropropene	ug/kg	37 U	35 U	34 U	32 U
Trichloroethene	ug/kg	400	250	220	1300
Trichlorofluoromethane (CFC-11)	ug/kg	37 U	35 U	34 U	32 U
Trifluorotrichloroethane (Freon 113)	ug/kg	37 U	35 U	34 U	32 U
Vinyl chloride	ug/kg	37 U	35 U	34 U	32 U
Xylenes (total)	ug/kg	110	100 U	100 U	57 J
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	830 U	60 J	49 J	87
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB250-13	SB250-13	SB250-13
Sample Identification		SO-17360-082013-MR-068	SO-17360-082013-MR-069	SO-17360-082013-MR-070	SO-17360-082013-MR-071
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Duplicate	
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	310 U	31 U	19 J	31 U
Acenaphthylene	ug/kg	310 U	25 J	27 J	28 J
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	580	63	92	45
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	1100	180	310	56
Benzo(a)pyrene	ug/kg	1500	210	310	99
Benzo(b)fluoranthene	ug/kg	1600	260	410	150
Benzo(g,h,i)perylene	ug/kg	1200	190	270	120
Benzo(k)fluoranthene	ug/kg	740	120	160	65
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	1000	170	300	87
Dibenz(a,h)anthracene	ug/kg	750	86	120	79
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB250-13	SB250-13	SB250-13
Sample Identification		SO-17360-082013-MR-068	SO-17360-082013-MR-069	SO-17360-082013-MR-070	SO-17360-082013-MR-071
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Duplicate	
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	2400	310	510	110
Fluorene	ug/kg	310 U	31 U	20 J	31 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	1300	220	330	120
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	310 U	22 J	18 J	54
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1400	160	310	100
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	2100	360	580	98
Metals					
Antimony	ug/kg	420	150 J	190 J	350 J
Arsenic	ug/kg	2300	1400	1700	1500
Barium	ug/kg	31000 J	23000 J	21000 J	35000 J
Beryllium	ug/kg	100 J	76 J	86 J	130 J
Cadmium	ug/kg	240	110 J	110 J	140 J
Chromium	ug/kg	8300	7900	7300	5800
Cobalt	ug/kg	2200	2100	2200	1800
Copper	ug/kg	15000	10000	14000	8700
Iron	ug/kg	5700000	5900000	6200000	4800000
Lead	ug/kg	18000	9200	12000	17000
Manganese	ug/kg	150000	160000	160000	250000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB250-13	SB250-13	SB250-13
Sample Identification		SO-17360-082013-MR-068	SO-17360-082013-MR-069	SO-17360-082013-MR-070	SO-17360-082013-MR-071
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type				Duplicate	
Sample Depth		(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	40 U	38 U	36 U	28 J
Molybdenum	ug/kg	770	730	920	410
Nickel	ug/kg	6800	6800	6700	5000
Selenium	ug/kg	380 J	280 J	300 J	310 J
Silver	ug/kg	46 J	19 J	69 J	21 J
Thallium	ug/kg	390 U	390 U	390 U	390 U
Vanadium	ug/kg	10000	8000	11000	7500
Zinc	ug/kg	31000	15000	18000	17000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB251-13	SB251-13	SB251-13
Sample Identification		SO-17360-082013-MR-072	SO-17360-082013-MR-106	SO-17360-082013-MR-108	SO-17360-082013-MR-109
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	41 U	61 U	33 U	37 U
1,1,2,2-Tetrachloroethane	ug/kg	41 U	61 U	33 U	37 U
1,1,2-Trichloroethane	ug/kg	41 U	61 U	33 U	37 U
1,1-Dichloroethane	ug/kg	41 U	61 U	33 U	37 U
1,1-Dichloroethene	ug/kg	41 U	61 U	33 U	37 U
1,2,4-Trichlorobenzene	ug/kg	41 U	61 U	33 U	37 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	41 U	61 U	33 U	37 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	41 U	61 U	33 U	37 U
1,2-Dichlorobenzene	ug/kg	41 U	61 U	33 U	37 U
1,2-Dichloroethane	ug/kg	41 U	61 U	33 U	37 U
1,2-Dichloropropane	ug/kg	41 U	61 U	33 U	37 U
1,3-Dichlorobenzene	ug/kg	41 U	61 U	33 U	37 U
1,4-Dichlorobenzene	ug/kg	41 U	61 U	33 U	37 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	280 U	400 U	220 U	240 U
2-Hexanone	ug/kg	41 U	61 U	33 U	37 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	41 U	61 U	33 U	37 U
Acetone	ug/kg	140 U	200 U	110 U	120 U
Benzene	ug/kg	41 U	61 U	33 U	50
Bromodichloromethane	ug/kg	41 U	61 U	33 U	37 U
Bromoform	ug/kg	41 U	61 U	33 U	37 U
Bromomethane (Methyl bromide)	ug/kg	100 U	150 UJ	81 UJ	92 UJ
Carbon disulfide	ug/kg	41 U	61 U	33 U	37 U
Carbon tetrachloride	ug/kg	41 U	61 U	33 U	37 U
Chlorobenzene	ug/kg	41 U	61 U	33 U	37 U
Chloroethane	ug/kg	140 U	200 U	110 U	120 U
Chloroform (Trichloromethane)	ug/kg	41 U	61 U	33 U	37 U
Chloromethane (Methyl chloride)	ug/kg	140 U	200 U	110 U	120 U
cis-1,2-Dichloroethene	ug/kg	41 U	61 U	61	37 U
cis-1,3-Dichloropropene	ug/kg	41 U	61 U	33 U	37 U
Cyclohexane	ug/kg	41 U	61 U	33 U	37 U
Dibromochloromethane	ug/kg	41 U	61 UJ	33 U	37 U
Dichlorodifluoromethane (CFC-12)	ug/kg	41 U	61 U	33 U	37 U
Ethylbenzene	ug/kg	35 J	61 U	33 U	64

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB251-13	SB251-13	SB251-13
Sample Identification		SO-17360-082013-MR-072	SO-17360-082013-MR-106	SO-17360-082013-MR-108	SO-17360-082013-MR-109
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	33 J	61 U	33 U	40
Methyl acetate	ug/kg	280 U	180 J	220 U	240 U
Methyl cyclohexane	ug/kg	260	57 J	33 U	200
Methyl tert butyl ether (MTBE)	ug/kg	41 U	61 U	33 U	37 U
Methylene chloride	ug/kg	41 U	120 U	33 U	37 U
Styrene	ug/kg	41 U	61 U	33 U	37 U
Tetrachloroethene	ug/kg	41 U	61 U	33 U	37 U
Toluene	ug/kg	98	28 J	33 U	350
trans-1,2-Dichloroethene	ug/kg	41 U	61 U	33 U	37 U
trans-1,3-Dichloropropene	ug/kg	41 U	61 U	33 U	37 U
Trichloroethene	ug/kg	4900	270	4300	3600
Trichlorofluoromethane (CFC-11)	ug/kg	41 U	61 U	33 U	37 U
Trifluorotrichloroethane (Freon 113)	ug/kg	41 U	61 U	33 U	37 U
Vinyl chloride	ug/kg	41 U	61 U	33 U	37 U
Xylenes (total)	ug/kg	230	180 U	98 U	310
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	720	840 U	840 U	840 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB251-13	SB251-13	SB251-13
Sample Identification		SO-17360-082013-MR-072	SO-17360-082013-MR-106	SO-17360-082013-MR-108	SO-17360-082013-MR-109
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	300	320 U	320 U	320 U
Acenaphthylene	ug/kg	48	320 U	320 U	320 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	180	230 J	320 U	220 J
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	280	770	510	720
Benzo(a)pyrene	ug/kg	280	660	400	620
Benzo(b)fluoranthene	ug/kg	410	1100	1000	1000
Benzo(g,h,i)perylene	ug/kg	230	630	550	460
Benzo(k)fluoranthene	ug/kg	150	450 J	300 J	380
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	360	850	690	700
Dibenz(a,h)anthracene	ug/kg	110	320 U	320 U	320 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB251-13	SB251-13	SB251-13
Sample Identification		SO-17360-082013-MR-072	SO-17360-082013-MR-106	SO-17360-082013-MR-108	SO-17360-082013-MR-109
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	420	1800 J	900	1300
Fluorene	ug/kg	110	320 U	320 U	320 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	290	490	480	470
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	740	320 U	320 U	320 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	680	1200 J	550	930
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	530	1600 J	770	1200
Metals					
Antimony	ug/kg	380 J	730	13000	6600
Arsenic	ug/kg	4400	2000	5900	5700
Barium	ug/kg	37000 J	36000	150000	76000
Beryllium	ug/kg	190	97 J	130 J	140 J
Cadmium	ug/kg	270	230	5500	2700
Chromium	ug/kg	7600	14000	680000	360000
Cobalt	ug/kg	3000	2200	41000	22000
Copper	ug/kg	17000	12000	420000	120000
Iron	ug/kg	9200000	5300000	43000000	35000000
Lead	ug/kg	24000	45000	270000	410000
Manganese	ug/kg	140000	160000	1900000	810000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB250-13	SB251-13	SB251-13	SB251-13
Sample Identification		SO-17360-082013-MR-072	SO-17360-082013-MR-106	SO-17360-082013-MR-108	SO-17360-082013-MR-109
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	47	16 J	27 J	25 J
Molybdenum	ug/kg	1400	3300	150000	86000
Nickel	ug/kg	9100	12000	480000	260000
Selenium	ug/kg	610	230 J	410	320 J
Silver	ug/kg	42 J	120 J	6600	3700
Thallium	ug/kg	400 U	370 U	3900 U	380 U
Vanadium	ug/kg	8700	7900	390 U	380 U
Zinc	ug/kg	18000	59000	280000	130000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB251-13	SB251-13	SB251-13	SB252-13
Sample Identification		SO-17360-082013-MR-110	SO-17360-082013-MR-111	SO-17360-082013-MR-112	SO-17360-082013-MR-100
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	37 U	33 U	35 U	36 U
1,1,2,2-Tetrachloroethane	ug/kg	37 U	33 U	35 U	36 U
1,1,2-Trichloroethane	ug/kg	37 U	33 U	35 U	36 U
1,1-Dichloroethane	ug/kg	37 U	33 U	35 U	36 U
1,1-Dichloroethene	ug/kg	37 U	33 U	35 U	36 U
1,2,4-Trichlorobenzene	ug/kg	37 U	33 U	35 U	36 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	37 U	33 U	35 U	36 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	37 U	33 U	35 U	36 U
1,2-Dichlorobenzene	ug/kg	37 U	33 U	35 U	36 U
1,2-Dichloroethane	ug/kg	37 U	33 U	35 U	36 U
1,2-Dichloropropane	ug/kg	37 U	33 U	35 U	36 U
1,3-Dichlorobenzene	ug/kg	37 U	33 U	35 U	36 U
1,4-Dichlorobenzene	ug/kg	37 U	33 U	35 U	36 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	240 U	220 U	230 U	100 J
2-Hexanone	ug/kg	37 U	33 U	35 U	36 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	37 U	33 U	35 U	36 U
Acetone	ug/kg	120 U	110 U	120 U	140 U
Benzene	ug/kg	37 U	33 U	35 U	36 U
Bromodichloromethane	ug/kg	37 U	33 U	35 U	36 U
Bromoform	ug/kg	37 U	33 U	35 U	36 U
Bromomethane (Methyl bromide)	ug/kg	92 UJ	83 UJ	86 UJ	89 U
Carbon disulfide	ug/kg	37 U	33 U	35 U	36 U
Carbon tetrachloride	ug/kg	37 U	33 U	35 U	36 U
Chlorobenzene	ug/kg	37 U	33 U	35 U	36 U
Chloroethane	ug/kg	120 U	110 U	120 U	120 U
Chloroform (Trichloromethane)	ug/kg	37 U	33 U	35 U	36 U
Chloromethane (Methyl chloride)	ug/kg	120 U	110 U	120 U	120 U
cis-1,2-Dichloroethene	ug/kg	37 U	33 U	35 U	36 U
cis-1,3-Dichloropropene	ug/kg	37 U	33 U	35 U	36 U
Cyclohexane	ug/kg	37 U	33 U	35 U	46
Dibromochloromethane	ug/kg	37 U	33 U	35 U	36 U
Dichlorodifluoromethane (CFC-12)	ug/kg	37 U	33 U	35 U	36 U
Ethylbenzene	ug/kg	37 U	33 U	35 U	15 J

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB251-13	SB251-13	SB251-13	SB252-13
Sample Identification		SO-17360-082013-MR-110	SO-17360-082013-MR-111	SO-17360-082013-MR-112	SO-17360-082013-MR-100
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	37 U	33 U	35 U	36 U
Methyl acetate	ug/kg	240 U	340	230 U	73 J
Methyl cyclohexane	ug/kg	37 U	33 U	35 U	210
Methyl tert butyl ether (MTBE)	ug/kg	37 U	33 U	35 U	36 U
Methylene chloride	ug/kg	37 U	33 U	35 U	89 U
Styrene	ug/kg	37 U	33 U	35 U	36 U
Tetrachloroethene	ug/kg	37 U	33 U	35 U	36 U
Toluene	ug/kg	37 U	33 U	35 U	78
trans-1,2-Dichloroethene	ug/kg	37 U	33 U	35 U	36 U
trans-1,3-Dichloropropene	ug/kg	37 U	33 U	35 U	36 U
Trichloroethene	ug/kg	370	690	420	1300
Trichlorofluoromethane (CFC-11)	ug/kg	37 U	33 U	35 U	36 U
Trifluorotrichloroethane (Freon 113)	ug/kg	37 U	33 U	35 U	36 U
Vinyl chloride	ug/kg	37 U	33 U	35 U	36 U
Xylenes (total)	ug/kg	110 U	100 U	100 U	170
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	840 U	840 U	85 U	820 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB251-13	SB251-13	SB251-13	SB252-13
Sample Identification		SO-17360-082013-MR-110	SO-17360-082013-MR-111	SO-17360-082013-MR-112	SO-17360-082013-MR-100
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	310	310 U	24 J	310
Acenaphthylene	ug/kg	310 U	310 U	32 U	310 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	360	310 U	53	410
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	930	380	200	980
Benzo(a)pyrene	ug/kg	750	290 J	210	670
Benzo(b)fluoranthene	ug/kg	1100	410	330	1100
Benzo(g,h,i)perylene	ug/kg	430	310 U	160	420
Benzo(k)fluoranthene	ug/kg	370	180 J	110	370
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	300 J	300 J	210	940
Dibenz(a,h)anthracene	ug/kg	310 U	310 U	38	310 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB251-13	SB251-13	SB251-13	SB252-13
Sample Identification		SO-17360-082013-MR-110	SO-17360-082013-MR-111	SO-17360-082013-MR-112	SO-17360-082013-MR-100
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	650 J	650	410	2700
Fluorene	ug/kg	240 J	310 U	19 J	180 J
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	450	230 J	160	440
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	310 U	310 U	32 U	310 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1600	310	220	2600
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1600	510	360	2200
Metals					
Antimony	ug/kg	950	950	5400	1200
Arsenic	ug/kg	2400	2400	2400	2600
Barium	ug/kg	41000	41000	86000	38000
Beryllium	ug/kg	82 J	86 J	84 J	99 J
Cadmium	ug/kg	230	640	380	190
Chromium	ug/kg	8900	8700	9000	13000
Cobalt	ug/kg	1900	2300	2500	3000
Copper	ug/kg	27000	39000	33000	16000
Iron	ug/kg	4500000	5800000	5700000	7400000
Lead	ug/kg	41000	35000	25000	50000
Manganese	ug/kg	120000	120000	190000	150000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB251-13	SB251-13	SB251-13	SB252-13
Sample Identification		SO-17360-082013-MR-110	SO-17360-082013-MR-111	SO-17360-082013-MR-112	SO-17360-082013-MR-100
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	10 J	10 J	11 J	14 J
Molybdenum	ug/kg	1100	1400	2400	4900
Nickel	ug/kg	7700	8700	11000	8900
Selenium	ug/kg	230 J	260 J	270 J	290 J
Silver	ug/kg	57 J	120 J	330 J	84 J
Thallium	ug/kg	350 U	360 U	380 U	13 J
Vanadium	ug/kg	6400	7300	7600	11000
Zinc	ug/kg	32000	67000	76000	26000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB252-13	SB252-13	SB252-13
Sample Identification		SO-17360-082013-MR-101	SO-17360-082013-MR-102	SO-17360-082013-MR-103	SO-17360-082013-MR-104
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	35 U	34 U	40 U	33 U
1,1,2,2-Tetrachloroethane	ug/kg	35 U	34 U	40 U	33 U
1,1,2-Trichloroethane	ug/kg	35 U	34 U	40 U	33 U
1,1-Dichloroethane	ug/kg	35 U	34 U	40 U	33 U
1,1-Dichloroethene	ug/kg	35 U	34 U	40 U	33 U
1,2,4-Trichlorobenzene	ug/kg	35 U	34 U	40 U	33 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	35 U	34 U	40 U	33 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	35 U	34 U	40 U	33 U
1,2-Dichlorobenzene	ug/kg	35 U	34 U	40 U	33 U
1,2-Dichloroethane	ug/kg	35 U	34 U	40 U	33 U
1,2-Dichloropropane	ug/kg	35 U	34 U	40 U	33 U
1,3-Dichlorobenzene	ug/kg	35 U	34 U	40 U	33 U
1,4-Dichlorobenzene	ug/kg	35 U	34 U	40 U	33 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	230 U	270 U	220 U
2-Hexanone	ug/kg	35 U	34 U	40 U	33 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	35 U	34 U	40 U	33 U
Acetone	ug/kg	120 U	110 U	130 U	110 U
Benzene	ug/kg	35 U	34 U	40 U	33 U
Bromodichloromethane	ug/kg	35 U	34 U	40 U	33 U
Bromoform	ug/kg	35 U	34 U	40 U	33 U
Bromomethane (Methyl bromide)	ug/kg	88 U	84 U	100 U	82 U
Carbon disulfide	ug/kg	35 U	34 U	40 U	33 U
Carbon tetrachloride	ug/kg	35 U	34 U	40 U	33 U
Chlorobenzene	ug/kg	35 U	34 U	40 U	33 U
Chloroethane	ug/kg	120 U	110 U	130 U	110 U
Chloroform (Trichloromethane)	ug/kg	35 U	34 U	40 U	33 U
Chloromethane (Methyl chloride)	ug/kg	120 U	110 U	130 U	110 U
cis-1,2-Dichloroethene	ug/kg	35 U	34 U	40 U	33 U
cis-1,3-Dichloropropene	ug/kg	35 U	34 U	40 U	33 U
Cyclohexane	ug/kg	35 U	34 U	40 U	33 U
Dibromochloromethane	ug/kg	35 U	34 U	40 U	33 U
Dichlorodifluoromethane (CFC-12)	ug/kg	35 U	34 U	40 U	33 U
Ethylbenzene	ug/kg	35 U	34 U	40 U	33 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB252-13	SB252-13	SB252-13
Sample Identification		SO-17360-082013-MR-101	SO-17360-082013-MR-102	SO-17360-082013-MR-103	SO-17360-082013-MR-104
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	35 U	34 U	40 U	33 U
Methyl acetate	ug/kg	230 U	230 U	270 U	220 U
Methyl cyclohexane	ug/kg	35 U	34 U	40 U	33 U
Methyl tert butyl ether (MTBE)	ug/kg	35 U	34 U	40 U	33 U
Methylene chloride	ug/kg	82 U	79 U	40 U	33 U
Styrene	ug/kg	35 U	34 U	40 U	33 U
Tetrachloroethene	ug/kg	35 U	34 U	40 U	33 U
Toluene	ug/kg	35 U	34 U	40 U	33 U
trans-1,2-Dichloroethene	ug/kg	35 U	34 U	40 U	33 U
trans-1,3-Dichloropropene	ug/kg	35 U	34 U	40 U	33 U
Trichloroethene	ug/kg	35 U	190	40 U	460
Trichlorofluoromethane (CFC-11)	ug/kg	35 U	34 U	40 U	33 U
Trifluorotrichloroethane (Freon 113)	ug/kg	35 U	34 U	40 U	33 U
Vinyl chloride	ug/kg	35 U	34 U	40 U	33 U
Xylenes (total)	ug/kg	110 U	100 U	120 U	99 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	82 U	83 U	82 U	840 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB252-13	SB252-13	SB252-13
Sample Identification		SO-17360-082013-MR-101	SO-17360-082013-MR-102	SO-17360-082013-MR-103	SO-17360-082013-MR-104
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	49	33	41	190 J
Acenaphthylene	ug/kg	31 U	31 U	31 U	320 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	140	160	99	330
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	310	280	280	1100
Benzo(a)pyrene	ug/kg	250	230	250	870
Benzo(b)fluoranthene	ug/kg	380	340	380	1200
Benzo(g,h,i)perylene	ug/kg	230	160	200	510
Benzo(k)fluoranthene	ug/kg	110	110	100	470
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	300	300	280	990
Dibenz(a,h)anthracene	ug/kg	52	37	42	320 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB252-13	SB252-13	SB252-13
Sample Identification		SO-17360-082013-MR-101	SO-17360-082013-MR-102	SO-17360-082013-MR-103	SO-17360-082013-MR-104
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	780	640	600	2700
Fluorene	ug/kg	52	36	42	320 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	220	160	190	520
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	31 U	31 U	31 U	320 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	560	460	460	1600
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	700	480	480	2000
Metals					
Antimony	ug/kg	100 J	100 J	80 J	2100
Arsenic	ug/kg	1000	1000	910	2200
Barium	ug/kg	8100	8100	6500	30000
Beryllium	ug/kg	41 J	45 J	42 J	48 J
Cadmium	ug/kg	33 J	46 J	28 J	450
Chromium	ug/kg	3300	3200	2700	18000
Cobalt	ug/kg	930	1000	920	3800
Copper	ug/kg	3100	4900	3700	75000
Iron	ug/kg	2400000	2600000	2500000	9300000
Lead	ug/kg	3300	4600	2900	230000
Manganese	ug/kg	56000	67000	62000	140000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB252-13	SB252-13	SB252-13
Sample Identification		SO-17360-082013-MR-101	SO-17360-082013-MR-102	SO-17360-082013-MR-103	SO-17360-082013-MR-104
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	4.8 J	5.5 J	4.6 J	9.1 J
Molybdenum	ug/kg	580	580	470	13000
Nickel	ug/kg	3800	3300	2400	23000
Selenium	ug/kg	190 J	190 J	170 J	160 J
Silver	ug/kg	22 J	23 J	4.2 J	390
Thallium	ug/kg	360 U	360 U	360 U	370 U
Vanadium	ug/kg	3600	4100	3600	4000
Zinc	ug/kg	8000	9200	9100	58000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB253-13	SB253-13	SB253-13
Sample Identification		SO-17360-082013-MR-105	SO-17360-082013-MR-095	SO-17360-082013-MR-096	SO-17360-082013-MR-097
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	35 U	32 U	32 U	32 U
1,1,2,2-Tetrachloroethane	ug/kg	35 U	32 U	32 U	32 U
1,1,2-Trichloroethane	ug/kg	35 U	32 U	32 U	32 U
1,1-Dichloroethane	ug/kg	35 U	32 U	32 U	32 U
1,1-Dichloroethene	ug/kg	35 U	32 U	32 U	32 U
1,2,4-Trichlorobenzene	ug/kg	35 U	32 U	32 U	32 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	35 U	32 U	32 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	35 U	32 U	32 U	32 U
1,2-Dichlorobenzene	ug/kg	35 U	32 U	32 U	32 U
1,2-Dichloroethane	ug/kg	35 U	32 U	32 U	32 U
1,2-Dichloropropane	ug/kg	35 U	32 U	32 U	32 U
1,3-Dichlorobenzene	ug/kg	35 U	32 U	32 U	32 U
1,4-Dichlorobenzene	ug/kg	35 U	32 U	32 U	32 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	230 U	220 U	210 U	210 U
2-Hexanone	ug/kg	35 U	32 U	32 U	32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	35 U	32 U	32 U	32 U
Acetone	ug/kg	120 U	110 U	110 U	110 U
Benzene	ug/kg	35 U	32 U	32 U	32 U
Bromodichloromethane	ug/kg	35 U	32 U	32 U	32 U
Bromoform	ug/kg	35 U	32 U	32 U	32 U
Bromomethane (Methyl bromide)	ug/kg	86 UJ	81 U	79 U	79 U
Carbon disulfide	ug/kg	35 U	32 U	32 U	32 U
Carbon tetrachloride	ug/kg	35 U	32 U	32 U	32 U
Chlorobenzene	ug/kg	35 U	32 U	32 U	32 U
Chloroethane	ug/kg	120 U	110 U	110 U	110 U
Chloroform (Trichloromethane)	ug/kg	35 U	32 U	32 U	32 U
Chloromethane (Methyl chloride)	ug/kg	120 U	110 U	110 U	110 U
cis-1,2-Dichloroethene	ug/kg	35 U	32 U	32 U	32 U
cis-1,3-Dichloropropene	ug/kg	35 U	32 U	32 U	32 U
Cyclohexane	ug/kg	35 U	32 U	32 U	32 U
Dibromochloromethane	ug/kg	35 U	32 U	32 U	32 U
Dichlorodifluoromethane (CFC-12)	ug/kg	35 U	32 U	32 U	32 U
Ethylbenzene	ug/kg	35 U	32 U	32 U	32 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB253-13	SB253-13	SB253-13
Sample Identification		SO-17360-082013-MR-105	SO-17360-082013-MR-095	SO-17360-082013-MR-096	SO-17360-082013-MR-097
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	35 U	32 U	32 U	32 U
Methyl acetate	ug/kg	230 U	190 J	210 U	210 U
Methyl cyclohexane	ug/kg	35 U	32 J	32 U	32 U
Methyl tert butyl ether (MTBE)	ug/kg	35 U	32 U	32 U	32 U
Methylene chloride	ug/kg	35 U	92 U	90 U	85 U
Styrene	ug/kg	35 U	32 U	32 U	32 U
Tetrachloroethene	ug/kg	35 U	32 U	32 U	32 U
Toluene	ug/kg	35 U	44	32 U	32 U
trans-1,2-Dichloroethene	ug/kg	35 U	32 U	32 U	32 U
trans-1,3-Dichloropropene	ug/kg	35 U	32 U	32 U	32 U
Trichloroethene	ug/kg	860	150	32 U	160
Trichlorofluoromethane (CFC-11)	ug/kg	35 U	32 U	32 U	32 U
Trifluorotrichloroethane (Freon 113)	ug/kg	35 U	32 U	32 U	32 U
Vinyl chloride	ug/kg	35 U	32 U	32 U	32 U
Xylenes (total)	ug/kg	100 U	53 J	95 U	95 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	87 U	330 J	840 U	830 U
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB253-13	SB253-13	SB253-13
Sample Identification		SO-17360-082013-MR-105	SO-17360-082013-MR-095	SO-17360-082013-MR-096	SO-17360-082013-MR-097
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	33 U	600	320 U	310 U
Acenaphthylene	ug/kg	33 U	320 U	320 U	310 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	33 U	750	270 J	310 U
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	44	2100	930	480
Benzo(a)pyrene	ug/kg	32 J	1600	890	350
Benzo(b)fluoranthene	ug/kg	69	2500	1400	690
Benzo(g,h,i)perylene	ug/kg	38	840	490	310 U
Benzo(k)fluoranthene	ug/kg	24 J	880	480	270 J
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	43	2100	880	470
Dibenz(a,h)anthracene	ug/kg	33 U	210 J	320 U	310 U
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB253-13	SB253-13	SB253-13
Sample Identification		SO-17360-082013-MR-105	SO-17360-082013-MR-095	SO-17360-082013-MR-096	SO-17360-082013-MR-097
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	70	5800	1700	770
Fluorene	ug/kg	33 U	320	320 U	310 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	35	910	530	240 J
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	33 U	250 J	320 U	310 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	38	5100	890	410
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	59	4900	1500	770
Metals					
Antimony	ug/kg	510	950	400	390
Arsenic	ug/kg	1400	2100	2500	2400
Barium	ug/kg	33000	53000 J	22000 J	19000
Beryllium	ug/kg	120 J	110 J	90 J	100 J
Cadmium	ug/kg	410	160	120 J	150
Chromium	ug/kg	7800	15000	32000	5000
Cobalt	ug/kg	1700	2600	2600	1700
Copper	ug/kg	9100	9900	11000	20000
Iron	ug/kg	5000000	7900000	7100000	4700000
Lead	ug/kg	35000	99000	16000	40000
Manganese	ug/kg	91000	230000	230000	110000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB252-13	SB253-13	SB253-13	SB253-13
Sample Identification		SO-17360-082013-MR-105	SO-17360-082013-MR-095	SO-17360-082013-MR-096	SO-17360-082013-MR-097
Sample Date		8/20/2013	8/20/2013	8/20/2013	8/20/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	14 J	17 J	19 J	13 J
Molybdenum	ug/kg	4700	1500	4300	590
Nickel	ug/kg	8100	10000	16000	12000
Selenium	ug/kg	300 J	320 J	290 J	190 J
Silver	ug/kg	730	130 J	180 J	72 J
Thallium	ug/kg	370 U	45 J	47 J	18 J
Vanadium	ug/kg	6700	14000 J	10000 J	7400
Zinc	ug/kg	25000	31000	23000	17000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB253-13	SB253-13	SB267-13	SB267-13
Sample Identification		SO-17360-082013-MR-098	SO-17360-082013-MR-099	SO-17360-082113-MR-115	SO-17360-082113-MR-116
Sample Date		8/20/2013	8/20/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	42 U	--	41 U
1,1,2,2-Tetrachloroethane	ug/kg	34 U	42 U	--	41 U
1,1,2-Trichloroethane	ug/kg	34 U	42 U	--	41 U
1,1-Dichloroethane	ug/kg	34 U	42 U	--	41 U
1,1-Dichloroethene	ug/kg	34 U	42 U	--	41 U
1,2,4-Trichlorobenzene	ug/kg	34 U	42 U	--	41 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	42 U	--	41 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	42 U	--	41 U
1,2-Dichlorobenzene	ug/kg	34 U	42 U	--	41 U
1,2-Dichloroethane	ug/kg	34 U	42 U	--	41 U
1,2-Dichloropropane	ug/kg	34 U	42 U	--	41 U
1,3-Dichlorobenzene	ug/kg	34 U	42 U	--	41 U
1,4-Dichlorobenzene	ug/kg	34 U	42 U	--	41 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	110 J	--	270 U
2-Hexanone	ug/kg	34 U	42 U	--	41 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	42 U	--	41 U
Acetone	ug/kg	110 U	480 U	--	290
Benzene	ug/kg	34 U	42 U	--	41 U
Bromodichloromethane	ug/kg	34 U	42 U	--	41 U
Bromoform	ug/kg	34 U	42 U	--	41 U
Bromomethane (Methyl bromide)	ug/kg	84 U	110 U	--	100 U
Carbon disulfide	ug/kg	34 U	42 U	--	220
Carbon tetrachloride	ug/kg	34 U	42 U	--	41 U
Chlorobenzene	ug/kg	34 U	42 U	--	41 U
Chloroethane	ug/kg	110 U	140 U	--	140 U
Chloroform (Trichloromethane)	ug/kg	34 U	42 U	--	41 U
Chloromethane (Methyl chloride)	ug/kg	110 U	140 U	--	140 U
cis-1,2-Dichloroethene	ug/kg	34 U	42 U	--	41 U
cis-1,3-Dichloropropene	ug/kg	34 U	42 U	--	41 U
Cyclohexane	ug/kg	34 U	42 U	--	41 U
Dibromochloromethane	ug/kg	34 U	42 U	--	41 U
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	42 U	--	41 U
Ethylbenzene	ug/kg	34 U	42 U	--	41 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB253-13	SB253-13	SB267-13	SB267-13
Sample Identification		SO-17360-082013-MR-098	SO-17360-082013-MR-099	SO-17360-082113-MR-115	SO-17360-082113-MR-116
Sample Date		8/20/2013	8/20/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	42 U	--	41 U
Methyl acetate	ug/kg	220 U	280 U	--	270 U
Methyl cyclohexane	ug/kg	34 U	42 U	--	41 U
Methyl tert butyl ether (MTBE)	ug/kg	34 U	42 U	--	41 U
Methylene chloride	ug/kg	73 U	120 U	--	520
Styrene	ug/kg	34 U	42 U	--	41 U
Tetrachloroethene	ug/kg	34 U	42 U	--	41 U
Toluene	ug/kg	21 J	42 U	--	22 J
trans-1,2-Dichloroethene	ug/kg	34 U	42 U	--	41 U
trans-1,3-Dichloropropene	ug/kg	34 U	42 U	--	41 U
Trichloroethene	ug/kg	560	42 U	--	78
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	42 U	--	41 U
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	42 U	--	41 U
Vinyl chloride	ug/kg	34 U	42 U	--	41 U
Xylenes (total)	ug/kg	57 J	130 U	--	120 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	730 J	87 U	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB253-13	SB253-13	SB267-13	SB267-13
Sample Identification		SO-17360-082013-MR-098	SO-17360-082013-MR-099	SO-17360-082113-MR-115	SO-17360-082113-MR-116
Sample Date		8/20/2013	8/20/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	310 U	32 U	--	--
Acenaphthylene	ug/kg	310 U	32 U	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	250 J	32 U	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	660	44	--	--
Benzo(a)pyrene	ug/kg	560	37	--	--
Benzo(b)fluoranthene	ug/kg	2300	58	--	--
Benzo(g,h,i)perylene	ug/kg	750	32 U	--	--
Benzo(k)fluoranthene	ug/kg	570	32 U	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	890	39	--	--
Dibenz(a,h)anthracene	ug/kg	230 J	32 U	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB253-13	SB253-13	SB267-13	SB267-13
Sample Identification		SO-17360-082013-MR-098	SO-17360-082013-MR-099	SO-17360-082113-MR-115	SO-17360-082113-MR-116
Sample Date		8/20/2013	8/20/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	870	64	--	--
Fluorene	ug/kg	310 U	32 U	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	970	21 J	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	670	32 U	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	660	33	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	850	72	--	--
Metals					
Antimony	ug/kg	150 J	150 J	--	--
Arsenic	ug/kg	2000	1800	--	--
Barium	ug/kg	20000	20000	--	--
Beryllium	ug/kg	120 J	110 J	--	--
Cadmium	ug/kg	68 J	94 J	--	--
Chromium	ug/kg	4900	6200	--	--
Cobalt	ug/kg	1800	2300	--	--
Copper	ug/kg	4500	6100	--	--
Iron	ug/kg	6700000	5700000	--	--
Lead	ug/kg	8200	17000	--	--
Manganese	ug/kg	130000	180000	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB253-13	SB253-13	SB267-13	SB267-13
Sample Identification		SO-17360-082013-MR-098	SO-17360-082013-MR-099	SO-17360-082113-MR-115	SO-17360-082113-MR-116
Sample Date		8/20/2013	8/20/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	65	36 J	--	--
Molybdenum	ug/kg	410	350 J	--	--
Nickel	ug/kg	4300	5500	--	--
Selenium	ug/kg	340 J	390 J	--	--
Silver	ug/kg	3.4 J	6.5 J	--	--
Thallium	ug/kg	38 J	12 J	--	--
Vanadium	ug/kg	9100	9100	--	--
Zinc	ug/kg	15000	16000	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB267-13	SB267-13	SB267-13
Sample Identification		SO-17360-082113-MR-117	SO-17360-082113-MR-118	SO-17360-082113-MR-119	SO-17360-082113-MR-120
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-9.8) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	40 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	40 U	--
1,1,2-Trichloroethane	ug/kg	--	--	40 U	--
1,1-Dichloroethane	ug/kg	--	--	40 U	--
1,1-Dichloroethene	ug/kg	--	--	40 U	--
1,2,4-Trichlorobenzene	ug/kg	--	--	40 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	40 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	40 U	--
1,2-Dichlorobenzene	ug/kg	--	--	40 U	--
1,2-Dichloroethane	ug/kg	--	--	40 U	--
1,2-Dichloropropane	ug/kg	--	--	40 U	--
1,3-Dichlorobenzene	ug/kg	--	--	40 U	--
1,4-Dichlorobenzene	ug/kg	--	--	40 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	270 U	--
2-Hexanone	ug/kg	--	--	40 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	40 U	--
Acetone	ug/kg	--	--	130 U	--
Benzene	ug/kg	--	--	240	--
Bromodichloromethane	ug/kg	--	--	40 U	--
Bromoform	ug/kg	--	--	40 U	--
Bromomethane (Methyl bromide)	ug/kg	--	--	100 U	--
Carbon disulfide	ug/kg	--	--	73	--
Carbon tetrachloride	ug/kg	--	--	40 U	--
Chlorobenzene	ug/kg	--	--	40 U	--
Chloroethane	ug/kg	--	--	130 U	--
Chloroform (Trichloromethane)	ug/kg	--	--	40 U	--
Chloromethane (Methyl chloride)	ug/kg	--	--	130 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	40 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	40 U	--
Cyclohexane	ug/kg	--	--	290	--
Dibromochloromethane	ug/kg	--	--	40 U	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	40 U	--
Ethylbenzene	ug/kg	--	--	340	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB267-13	SB267-13	SB267-13
Sample Identification		SO-17360-082113-MR-117	SO-17360-082113-MR-118	SO-17360-082113-MR-119	SO-17360-082113-MR-120
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-9.8) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	130	--
Methyl acetate	ug/kg	--	--	230 J	--
Methyl cyclohexane	ug/kg	--	--	840	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	40 U	--
Methylene chloride	ug/kg	--	--	40 U	--
Styrene	ug/kg	--	--	40 U	--
Tetrachloroethene	ug/kg	--	--	40 U	--
Toluene	ug/kg	--	--	1700	--
trans-1,2-Dichloroethene	ug/kg	--	--	40 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	40 U	--
Trichloroethene	ug/kg	--	--	290	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	40 U	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	40 U	--
Vinyl chloride	ug/kg	--	--	40 U	--
Xylenes (total)	ug/kg	--	--	1600	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB267-13	SB267-13	SB267-13
Sample Identification		SO-17360-082113-MR-117	SO-17360-082113-MR-118	SO-17360-082113-MR-119	SO-17360-082113-MR-120
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-9.8) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB267-13	SB267-13	SB267-13
Sample Identification		SO-17360-082113-MR-117	SO-17360-082113-MR-118	SO-17360-082113-MR-119	SO-17360-082113-MR-120
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-9.8) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB267-13	SB267-13	SB267-13
Sample Identification		SO-17360-082113-MR-117	SO-17360-082113-MR-118	SO-17360-082113-MR-119	SO-17360-082113-MR-120
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type					
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-9.8) ft BGS	(10-12) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB269-13	SB269-13	SB269-13
Sample Identification		SO-17360-082113-MR-121	SO-17360-082113-MR-124	SO-17360-082113-MR-125	SO-17360-082113-MR-126
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Duplicate	
Sample Depth		(12.5-14.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	35 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	35 U
1,1,2-Trichloroethane	ug/kg	--	--	--	35 U
1,1-Dichloroethane	ug/kg	--	--	--	35 U
1,1-Dichloroethene	ug/kg	--	--	--	35 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	35 U
1,2-Dichlorobenzene	ug/kg	--	--	--	35 U
1,2-Dichloroethane	ug/kg	--	--	--	35 U
1,2-Dichloropropane	ug/kg	--	--	--	35 U
1,3-Dichlorobenzene	ug/kg	--	--	--	35 U
1,4-Dichlorobenzene	ug/kg	--	--	--	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	230 U
2-Hexanone	ug/kg	--	--	--	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	35 U
Acetone	ug/kg	--	--	--	120 U
Benzene	ug/kg	--	--	--	35 U
Bromodichloromethane	ug/kg	--	--	--	35 U
Bromoform	ug/kg	--	--	--	35 U
Bromomethane (Methyl bromide)	ug/kg	--	--	--	88 U
Carbon disulfide	ug/kg	--	--	--	35 U
Carbon tetrachloride	ug/kg	--	--	--	35 U
Chlorobenzene	ug/kg	--	--	--	35 U
Chloroethane	ug/kg	--	--	--	120 U
Chloroform (Trichloromethane)	ug/kg	--	--	--	35 U
Chloromethane (Methyl chloride)	ug/kg	--	--	--	120 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	35 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	35 U
Cyclohexane	ug/kg	--	--	--	35 U
Dibromochloromethane	ug/kg	--	--	--	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	35 U
Ethylbenzene	ug/kg	--	--	--	35 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB269-13	SB269-13	SB269-13
Sample Identification		SO-17360-082113-MR-121	SO-17360-082113-MR-124	SO-17360-082113-MR-125	SO-17360-082113-MR-126
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Duplicate	
Sample Depth		(12.5-14.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	35 U
Methyl acetate	ug/kg	--	--	--	210 J
Methyl cyclohexane	ug/kg	--	--	--	35 U
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	35 U
Methylene chloride	ug/kg	--	--	--	35 U
Styrene	ug/kg	--	--	--	35 U
Tetrachloroethene	ug/kg	--	--	--	35 U
Toluene	ug/kg	--	--	--	18 J
trans-1,2-Dichloroethene	ug/kg	--	--	--	35 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	35 U
Trichloroethene	ug/kg	--	--	--	35 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	35 U
Vinyl chloride	ug/kg	--	--	--	35 U
Xylenes (total)	ug/kg	--	--	--	110 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB269-13	SB269-13	SB269-13
Sample Identification		SO-17360-082113-MR-121	SO-17360-082113-MR-124	SO-17360-082113-MR-125	SO-17360-082113-MR-126
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Duplicate	
Sample Depth		(12.5-14.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB269-13	SB269-13	SB269-13
Sample Identification		SO-17360-082113-MR-121	SO-17360-082113-MR-124	SO-17360-082113-MR-125	SO-17360-082113-MR-126
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Duplicate	
Sample Depth		(12.5-14.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB267-13	SB269-13	SB269-13	SB269-13
Sample Identification		SO-17360-082113-MR-121	SO-17360-082113-MR-124	SO-17360-082113-MR-125	SO-17360-082113-MR-126
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type				Duplicate	
Sample Depth		(12.5-14.5) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB269-13	SB269-13	SB269-13	SB270-13
Sample Identification		SO-17360-082113-MR-128	SO-17360-082113-MR-129	SO-17360-082213-MR-127	SO-17360-082113-MR-130
Sample Date		8/21/2013	8/21/2013	8/22/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	34 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	34 U	--	--
1,1,2-Trichloroethane	ug/kg	--	34 U	--	--
1,1-Dichloroethane	ug/kg	--	34 U	--	--
1,1-Dichloroethene	ug/kg	--	34 U	--	--
1,2,4-Trichlorobenzene	ug/kg	--	34 U	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	34 U	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	34 U	--	--
1,2-Dichlorobenzene	ug/kg	--	34 U	--	--
1,2-Dichloroethane	ug/kg	--	34 U	--	--
1,2-Dichloropropane	ug/kg	--	34 U	--	--
1,3-Dichlorobenzene	ug/kg	--	34 U	--	--
1,4-Dichlorobenzene	ug/kg	--	34 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	230 U	--	--
2-Hexanone	ug/kg	--	34 U	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	34 U	--	--
Acetone	ug/kg	--	110 U	--	--
Benzene	ug/kg	--	34 U	--	--
Bromodichloromethane	ug/kg	--	34 U	--	--
Bromoform	ug/kg	--	34 U	--	--
Bromomethane (Methyl bromide)	ug/kg	--	86 U	--	--
Carbon disulfide	ug/kg	--	110	--	--
Carbon tetrachloride	ug/kg	--	34 U	--	--
Chlorobenzene	ug/kg	--	34 U	--	--
Chloroethane	ug/kg	--	110 U	--	--
Chloroform (Trichloromethane)	ug/kg	--	34 U	--	--
Chloromethane (Methyl chloride)	ug/kg	--	110 U	--	--
cis-1,2-Dichloroethene	ug/kg	--	34 U	--	--
cis-1,3-Dichloropropene	ug/kg	--	34 U	--	--
Cyclohexane	ug/kg	--	34 U	--	--
Dibromochloromethane	ug/kg	--	34 U	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	34 U	--	--
Ethylbenzene	ug/kg	--	34 U	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB269-13	SB269-13	SB269-13	SB270-13
Sample Identification		SO-17360-082113-MR-128	SO-17360-082113-MR-129	SO-17360-082213-MR-127	SO-17360-082113-MR-130
Sample Date		8/21/2013	8/21/2013	8/22/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	34 U	--	--
Methyl acetate	ug/kg	--	230 U	--	--
Methyl cyclohexane	ug/kg	--	34 U	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	34 U	--	--
Methylene chloride	ug/kg	--	170	--	--
Styrene	ug/kg	--	34 U	--	--
Tetrachloroethene	ug/kg	--	34 U	--	--
Toluene	ug/kg	--	34 U	--	--
trans-1,2-Dichloroethene	ug/kg	--	34 U	--	--
trans-1,3-Dichloropropene	ug/kg	--	34 U	--	--
Trichloroethene	ug/kg	--	34 U	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	34 U	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	34 U	--	--
Vinyl chloride	ug/kg	--	34 U	--	--
Xylenes (total)	ug/kg	--	100 U	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB269-13	SB269-13	SB269-13	SB270-13
Sample Identification		SO-17360-082113-MR-128	SO-17360-082113-MR-129	SO-17360-082213-MR-127	SO-17360-082113-MR-130
Sample Date		8/21/2013	8/21/2013	8/22/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB269-13	SB269-13	SB269-13	SB270-13
Sample Identification		SO-17360-082113-MR-128	SO-17360-082113-MR-129	SO-17360-082213-MR-127	SO-17360-082113-MR-130
Sample Date		8/21/2013	8/21/2013	8/22/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB269-13	SB269-13	SB269-13	SB270-13
Sample Identification		SO-17360-082113-MR-128	SO-17360-082113-MR-129	SO-17360-082213-MR-127	SO-17360-082113-MR-130
Sample Date		8/21/2013	8/21/2013	8/22/2013	8/21/2013
Sample Type					
Sample Depth		(6-8) ft BGS	(8-10) ft BGS	(4-6) ft BGS	(0-2) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB270-13	SB270-13	SB270-13
Sample Identification		SO-17360-082113-MR-131	SO-17360-082113-MR-132	SO-17360-082113-MR-133	SO-17360-082113-MR-134
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	34 U	38 U	51 U	--
1,1,2,2-Tetrachloroethane	ug/kg	34 U	38 U	51 U	--
1,1,2-Trichloroethane	ug/kg	34 U	38 U	51 U	--
1,1-Dichloroethane	ug/kg	34 U	38 U	51 U	--
1,1-Dichloroethene	ug/kg	34 U	38 U	51 U	--
1,2,4-Trichlorobenzene	ug/kg	34 U	38 U	51 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	34 U	38 U	51 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	34 U	38 U	51 U	--
1,2-Dichlorobenzene	ug/kg	34 U	38 U	51 U	--
1,2-Dichloroethane	ug/kg	34 U	38 U	51 U	--
1,2-Dichloropropane	ug/kg	34 U	38 U	51 U	--
1,3-Dichlorobenzene	ug/kg	34 U	38 U	51 U	--
1,4-Dichlorobenzene	ug/kg	34 U	38 U	51 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	220 U	250 U	340 U	--
2-Hexanone	ug/kg	34 U	38 U	51 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	34 U	38 U	51 U	--
Acetone	ug/kg	110 U	130 U	170 U	--
Benzene	ug/kg	34 U	38 U	51 U	--
Bromodichloromethane	ug/kg	34 U	38 U	51 U	--
Bromoform	ug/kg	34 U	38 U	51 U	--
Bromomethane (Methyl bromide)	ug/kg	84 U	95 U	130 U	--
Carbon disulfide	ug/kg	34	38 U	140	--
Carbon tetrachloride	ug/kg	34 U	38 U	51 U	--
Chlorobenzene	ug/kg	34 U	38 U	51 U	--
Chloroethane	ug/kg	110 U	130 U	170 U	--
Chloroform (Trichloromethane)	ug/kg	34 U	38 U	51 U	--
Chloromethane (Methyl chloride)	ug/kg	110 U	130 U	170 U	--
cis-1,2-Dichloroethene	ug/kg	34 U	38 U	51 U	--
cis-1,3-Dichloropropene	ug/kg	34 U	38 U	51 U	--
Cyclohexane	ug/kg	34 U	38 U	51 U	--
Dibromochloromethane	ug/kg	34 U	38 U	51 U	--
Dichlorodifluoromethane (CFC-12)	ug/kg	34 U	38 U	51 U	--
Ethylbenzene	ug/kg	34 U	38 U	51 U	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB270-13	SB270-13	SB270-13
Sample Identification		SO-17360-082113-MR-131	SO-17360-082113-MR-132	SO-17360-082113-MR-133	SO-17360-082113-MR-134
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	34 U	38 U	51 U	--
Methyl acetate	ug/kg	220 U	190 J	360	--
Methyl cyclohexane	ug/kg	34 U	38 U	250	--
Methyl tert butyl ether (MTBE)	ug/kg	34 U	38 U	51 U	--
Methylene chloride	ug/kg	34 U	38 U	140	--
Styrene	ug/kg	34 U	38 U	51 U	--
Tetrachloroethene	ug/kg	34 U	38 U	51 U	--
Toluene	ug/kg	34 U	38 U	51 U	--
trans-1,2-Dichloroethene	ug/kg	34 U	38 U	51 U	--
trans-1,3-Dichloropropene	ug/kg	34 U	38 U	51 U	--
Trichloroethene	ug/kg	34 U	38 U	7700	--
Trichlorofluoromethane (CFC-11)	ug/kg	34 U	38 U	51 U	--
Trifluorotrichloroethane (Freon 113)	ug/kg	34 U	38 U	51 U	--
Vinyl chloride	ug/kg	34 U	38 U	51 U	--
Xylenes (total)	ug/kg	100 U	110 U	100 J	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB270-13	SB270-13	SB270-13
Sample Identification		SO-17360-082113-MR-131	SO-17360-082113-MR-132	SO-17360-082113-MR-133	SO-17360-082113-MR-134
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB270-13	SB270-13	SB270-13
Sample Identification		SO-17360-082113-MR-131	SO-17360-082113-MR-132	SO-17360-082113-MR-133	SO-17360-082113-MR-134
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	85 J	77 J	2400	--
Arsenic	ug/kg	820	820	5700	--
Barium	ug/kg	7500	7500	77000	--
Beryllium	ug/kg	54 J	56 J	190 J	--
Cadmium	ug/kg	38 J	38 J	2900	--
Chromium	ug/kg	2300	2300	33000	--
Cobalt	ug/kg	900 J	900	4500	--
Copper	ug/kg	4400	4400	130000	--
Iron	ug/kg	1900000	2000000	25000000	--
Lead	ug/kg	2800	3400	340000	--
Manganese	ug/kg	86000	48000	320000	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB270-13	SB270-13	SB270-13
Sample Identification		SO-17360-082113-MR-131	SO-17360-082113-MR-132	SO-17360-082113-MR-133	SO-17360-082113-MR-134
Sample Date		8/21/2013	8/21/2013	8/21/2013	8/21/2013
Sample Type			Duplicate		
Sample Depth		(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	3.3 J	3 J	99	--
Molybdenum	ug/kg	560	250 J	22000	--
Nickel	ug/kg	4000	2900	36000	--
Selenium	ug/kg	330 U	370 U	2000 U	--
Silver	ug/kg	15 J	17 J	640 J	--
Thallium	ug/kg	39 J	370 U	76 J	--
Vanadium	ug/kg	3000	3200	7100	--
Zinc	ug/kg	13000	8400	830000	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB271-13	SB271-13	SB271-13
Sample Identification		SO-17360-082113-MR-135	SO-17360-082213-MR-138	SO-17360-082213-MR-139	SO-17360-082213-MR-140
Sample Date		8/21/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB270-13**	**SB271-13**	**SB271-13**	**SB271-13**
Sample Identification		**SO-17360-082113-MR-135**	**SO-17360-082213-MR-138**	**SO-17360-082213-MR-139**	**SO-17360-082213-MR-140**
Sample Date		**8/21/2013**	**8/22/2013**	**8/22/2013**	**8/22/2013**
Sample Type					
Sample Depth		**(8-10) ft BGS**	**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 40**	**AOI 40**	**AOI 40**	**AOI 40**
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB271-13	SB271-13	SB271-13
Sample Identification		SO-17360-082113-MR-135	SO-17360-082213-MR-138	SO-17360-082213-MR-139	SO-17360-082213-MR-140
Sample Date		8/21/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB271-13	SB271-13	SB271-13
Sample Identification		SO-17360-082113-MR-135	SO-17360-082213-MR-138	SO-17360-082213-MR-139	SO-17360-082213-MR-140
Sample Date		8/21/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB270-13	SB271-13	SB271-13	SB271-13
Sample Identification		SO-17360-082113-MR-135	SO-17360-082213-MR-138	SO-17360-082213-MR-139	SO-17360-082213-MR-140
Sample Date		8/21/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB271-13	SB271-13	SB272-13	SB272-13
Sample Identification		SO-17360-082613-EB-001	SO-17360-082613-EB-002	SO-17360-082213-MR-141	SO-17360-082213-MR-142
Sample Date		8/26/2013	8/26/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB271-13	SB271-13	SB272-13	SB272-13
Sample Identification		SO-17360-082613-EB-001	SO-17360-082613-EB-002	SO-17360-082213-MR-141	SO-17360-082213-MR-142
Sample Date		8/26/2013	8/26/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB271-13	SB271-13	SB272-13	SB272-13
Sample Identification		SO-17360-082613-EB-001	SO-17360-082613-EB-002	SO-17360-082213-MR-141	SO-17360-082213-MR-142
Sample Date		8/26/2013	8/26/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB271-13	SB271-13	SB272-13	SB272-13
Sample Identification		SO-17360-082613-EB-001	SO-17360-082613-EB-002	SO-17360-082213-MR-141	SO-17360-082213-MR-142
Sample Date		8/26/2013	8/26/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB271-13	SB271-13	SB272-13	SB272-13
Sample Identification		SO-17360-082613-EB-001	SO-17360-082613-EB-002	SO-17360-082213-MR-141	SO-17360-082213-MR-142
Sample Date		8/26/2013	8/26/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB272-13	SB272-13	SB272-13	SB272-13
Sample Identification		SO-17360-082213-MR-143	SO-17360-082213-MR-144	SO-17360-082213-MR-145	SO-17360-082213-MR-146
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type				Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--
Ethylbenzene	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB272-13	SB272-13	SB272-13	SB272-13
Sample Identification		SO-17360-082213-MR-143	SO-17360-082213-MR-144	SO-17360-082213-MR-145	SO-17360-082213-MR-146
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type				Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl cyclohexane	ug/kg	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylenes (total)	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB272-13	SB272-13	SB272-13	SB272-13
Sample Identification		SO-17360-082213-MR-143	SO-17360-082213-MR-144	SO-17360-082213-MR-145	SO-17360-082213-MR-146
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type				Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB272-13	SB272-13	SB272-13	SB272-13
Sample Identification		SO-17360-082213-MR-143	SO-17360-082213-MR-144	SO-17360-082213-MR-145	SO-17360-082213-MR-146
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type				Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	--	--	--
Arsenic	ug/kg	--	--	--	--
Barium	ug/kg	--	--	--	--
Beryllium	ug/kg	--	--	--	--
Cadmium	ug/kg	--	--	--	--
Chromium	ug/kg	--	--	--	--
Cobalt	ug/kg	--	--	--	--
Copper	ug/kg	--	--	--	--
Iron	ug/kg	--	--	--	--
Lead	ug/kg	--	--	--	--
Manganese	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB272-13	SB272-13	SB272-13	SB272-13
Sample Identification		SO-17360-082213-MR-143	SO-17360-082213-MR-144	SO-17360-082213-MR-145	SO-17360-082213-MR-146
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type				Duplicate	
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	--	--	--
Molybdenum	ug/kg	--	--	--	--
Nickel	ug/kg	--	--	--	--
Selenium	ug/kg	--	--	--	--
Silver	ug/kg	--	--	--	--
Thallium	ug/kg	--	--	--	--
Vanadium	ug/kg	--	--	--	--
Zinc	ug/kg	--	--	--	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB273-13	SB273-13	SB273-13
Sample Identification		SO-17360-082213-MR-147	SO-17360-082213-MR-148	SO-17360-082213-MR-149	SO-17360-082213-MR-150
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	35 U	34 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	35 U	34 U	--
1,1,2-Trichloroethane	ug/kg	--	35 U	34 U	--
1,1-Dichloroethane	ug/kg	--	35 U	34 U	--
1,1-Dichloroethene	ug/kg	--	35 U	34 U	--
1,2,4-Trichlorobenzene	ug/kg	--	35 U	34 U	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	35 U	34 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	35 U	34 U	--
1,2-Dichlorobenzene	ug/kg	--	35 U	34 U	--
1,2-Dichloroethane	ug/kg	--	35 U	34 U	--
1,2-Dichloropropane	ug/kg	--	35 U	34 U	--
1,3-Dichlorobenzene	ug/kg	--	35 U	34 U	--
1,4-Dichlorobenzene	ug/kg	--	35 U	34 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	230 U	230 U	--
2-Hexanone	ug/kg	--	35 U	34 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	35 U	34 U	--
Acetone	ug/kg	--	120 U	110 U	--
Benzene	ug/kg	--	35 U	34 U	--
Bromodichloromethane	ug/kg	--	35 U	34 U	--
Bromoform	ug/kg	--	35 U	34 U	--
Bromomethane (Methyl bromide)	ug/kg	--	87 U	85 U	--
Carbon disulfide	ug/kg	--	43	61	--
Carbon tetrachloride	ug/kg	--	35 U	34 U	--
Chlorobenzene	ug/kg	--	35 U	34 U	--
Chloroethane	ug/kg	--	120 U	110 U	--
Chloroform (Trichloromethane)	ug/kg	--	35 U	34 U	--
Chloromethane (Methyl chloride)	ug/kg	--	120 U	110 U	--
cis-1,2-Dichloroethene	ug/kg	--	35 U	34 U	--
cis-1,3-Dichloropropene	ug/kg	--	35 U	34 U	--
Cyclohexane	ug/kg	--	35 U	34 U	--
Dibromochloromethane	ug/kg	--	35 U	34 U	--
Dichlorodifluoromethane (CFC-12)	ug/kg	--	35 U	34 U	--
Ethylbenzene	ug/kg	--	35 U	34 U	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB273-13	SB273-13	SB273-13
Sample Identification		SO-17360-082213-MR-147	SO-17360-082213-MR-148	SO-17360-082213-MR-149	SO-17360-082213-MR-150
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	35 U	34 U	--
Methyl acetate	ug/kg	--	230 U	130 J	--
Methyl cyclohexane	ug/kg	--	35 U	34 U	--
Methyl tert butyl ether (MTBE)	ug/kg	--	35 U	34 U	--
Methylene chloride	ug/kg	--	35 U	31 J	--
Styrene	ug/kg	--	35 U	34 U	--
Tetrachloroethene	ug/kg	--	35 U	34 U	--
Toluene	ug/kg	--	35 U	34 U	--
trans-1,2-Dichloroethene	ug/kg	--	35 U	34 U	--
trans-1,3-Dichloropropene	ug/kg	--	35 U	34 U	--
Trichloroethene	ug/kg	--	160	210	--
Trichlorofluoromethane (CFC-11)	ug/kg	--	35 U	34 U	--
Trifluorotrichloroethane (Freon 113)	ug/kg	--	35 U	34 U	--
Vinyl chloride	ug/kg	--	35 U	34 U	--
Xylenes (total)	ug/kg	--	100 U	100 U	--
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB273-13	SB273-13	SB273-13
Sample Identification		SO-17360-082213-MR-147	SO-17360-082213-MR-148	SO-17360-082213-MR-149	SO-17360-082213-MR-150
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--
Benzo(a)pyrene	ug/kg	--	--	--	--
Benzo(b)fluoranthene	ug/kg	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	--	--	--	--
Benzo(k)fluoranthene	ug/kg	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB273-13	SB273-13	SB273-13
Sample Identification		SO-17360-082213-MR-147	SO-17360-082213-MR-148	SO-17360-082213-MR-149	SO-17360-082213-MR-150
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Metals					
Antimony	ug/kg	--	160 J	1000 J	--
Arsenic	ug/kg	--	1800	2800 J	--
Barium	ug/kg	--	16000	43000	--
Beryllium	ug/kg	--	110 J	7200 U	--
Cadmium	ug/kg	--	260 J	89000	--
Chromium	ug/kg	--	7400	12000 J	--
Cobalt	ug/kg	--	2200	3000 J	--
Copper	ug/kg	--	11000	8500000	--
Iron	ug/kg	--	4600000	6800000	--
Lead	ug/kg	--	11000	33000	--
Manganese	ug/kg	--	140000	180000	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB273-13	SB273-13	SB273-13
Sample Identification		SO-17360-082213-MR-147	SO-17360-082213-MR-148	SO-17360-082213-MR-149	SO-17360-082213-MR-150
Sample Date		8/22/2013	8/22/2013	8/22/2013	8/22/2013
Sample Type					
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	10 J	9.2 J	--
Molybdenum	ug/kg	--	700 J	18000 U	--
Nickel	ug/kg	--	7600	17000 J	--
Selenium	ug/kg	--	1700 U	18000 U	--
Silver	ug/kg	--	57 J	410 J	--
Thallium	ug/kg	--	1700 U	18000 U	--
Vanadium	ug/kg	--	6600	10000 J	--
Zinc	ug/kg	--	24000	1900000	--
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB295-13	SB295-13	SB295-13
Sample Identification		SO-17360-082213-MR-151	SO-017360-102313-MR-068	SO-017360-102313-MR-069	SO-017360-102313-MR-070
Sample Date		8/22/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	--	36 U	40 U	87 U
1,1,2,2-Tetrachloroethane	ug/kg	--	36 U	40 U	87 U
1,1,2-Trichloroethane	ug/kg	--	36 U	40 U	87 U
1,1-Dichloroethane	ug/kg	--	36 U	40 U	87 U
1,1-Dichloroethene	ug/kg	--	36 U	40 U	87 U
1,2,4-Trichlorobenzene	ug/kg	--	36 U	40 U	87 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	36 U	40 U	87 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	--	36 U	40 U	87 U
1,2-Dichlorobenzene	ug/kg	--	36 U	40 U	87 U
1,2-Dichloroethane	ug/kg	--	36 U	40 U	87 U
1,2-Dichloropropane	ug/kg	--	36 U	40 U	87 U
1,3-Dichlorobenzene	ug/kg	--	36 U	40 U	87 U
1,4-Dichlorobenzene	ug/kg	--	36 U	40 U	87 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	--	240 U	270 U	580 U
2-Hexanone	ug/kg	--	36 U	40 U	87 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	--	36 U	40 U	87 U
Acetone	ug/kg	--	120 U	130 U	290 U
Benzene	ug/kg	--	36 U	40 U	87 U
Bromodichloromethane	ug/kg	--	36 U	40 U	87 U
Bromoform	ug/kg	--	36 U	40 U	87 U
Bromomethane (Methyl bromide)	ug/kg	--	89 U	100 U	220 U
Carbon disulfide	ug/kg	--	36 U	40 U	87 U
Carbon tetrachloride	ug/kg	--	36 U	40 U	87 U
Chlorobenzene	ug/kg	--	36 U	40 U	87 U
Chloroethane	ug/kg	--	120 U	130 U	290 U
Chloroform (Trichloromethane)	ug/kg	--	36 U	40 U	87 U
Chloromethane (Methyl chloride)	ug/kg	--	120 U	130 U	290 U
cis-1,2-Dichloroethene	ug/kg	--	36 U	40 U	87 U
cis-1,3-Dichloropropene	ug/kg	--	36 U	40 U	87 U
Cyclohexane	ug/kg	--	36 U	40 U	87 U
Dibromochloromethane	ug/kg	--	36 U	40 U	87 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	36 U	40 U	87 U
Ethylbenzene	ug/kg	--	36 U	40 U	87 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB295-13	SB295-13	SB295-13
Sample Identification		SO-17360-082213-MR-151	SO-017360-102313-MR-068	SO-017360-102313-MR-069	SO-017360-102313-MR-070
Sample Date		8/22/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	--	36 U	40 U	87 U
Methyl acetate	ug/kg	--	240 U	270 U	580 U
Methyl cyclohexane	ug/kg	--	36 U	40 U	87 U
Methyl tert butyl ether (MTBE)	ug/kg	--	36 U	40 U	87 U
Methylene chloride	ug/kg	--	36 U	40 U	87 U
Styrene	ug/kg	--	36 U	40 U	87 U
Tetrachloroethene	ug/kg	--	36 U	40 U	87 U
Toluene	ug/kg	--	34 J	40 U	87 U
trans-1,2-Dichloroethene	ug/kg	--	36 U	40 U	87 U
trans-1,3-Dichloropropene	ug/kg	--	36 U	40 U	87 U
Trichloroethene	ug/kg	--	**990**[bc]	**580**[bc]	**1300**[bce]
Trichlorofluoromethane (CFC-11)	ug/kg	--	36 U	40 U	87 U
Trifluorotrichloroethane (Freon 113)	ug/kg	--	36 U	40 U	87 U
Vinyl chloride	ug/kg	--	36 U	40 U	87 U
Xylenes (total)	ug/kg	--	110 U	120 U	260 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	--	40	32	350
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB295-13	SB295-13	SB295-13
Sample Identification		SO-17360-082213-MR-151	SO-017360-102313-MR-068	SO-017360-102313-MR-069	SO-017360-102313-MR-070
Sample Date		8/22/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	7.1 U	7.1 U	73 U
Acenaphthylene	ug/kg	--	24	7.1 U	260
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	--	100	25	1000
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	--	330	110	2800
Benzo(a)pyrene	ug/kg	--	400	100	**2900[o]**
Benzo(b)fluoranthene	ug/kg	--	400	110	3200
Benzo(g,h,i)perylene	ug/kg	--	360	110	2000
Benzo(k)fluoranthene	ug/kg	--	360	100	2400
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	--	400	120	3400
Dibenz(a,h)anthracene	ug/kg	--	63	7.1 U	570
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB295-13	SB295-13	SB295-13
Sample Identification		SO-17360-082213-MR-151	SO-017360-102313-MR-068	SO-017360-102313-MR-069	SO-017360-102313-MR-070
Sample Date		8/22/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	650	170	4900
Fluorene	ug/kg	--	25	7.1 U	840
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	260	78	1400
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	22	7.1 U	73 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	400	82	**3800[d]**
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	--	650	170	4100
Metals					
Antimony	ug/kg	--	1200 J	690 J	460
Arsenic	ug/kg	--	3500	4200	**6200[bcd]**
Barium	ug/kg	--	46000	37000	59000
Beryllium	ug/kg	--	190 J	170 J	500
Cadmium	ug/kg	--	820	430 J	66 J
Chromium	ug/kg	--	**100000[bcd]**	**55000[bcd]**	7500
Cobalt	ug/kg	--	**8200[bcd]**	5400	3100
Copper	ug/kg	--	50000	33000	11000
Iron	ug/kg	--	9300000	11000000	2200000
Lead	ug/kg	--	52000 J	46000 J	14000 J
Manganese	ug/kg	--	350000	270000	30000

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB273-13	SB295-13	SB295-13	SB295-13
Sample Identification		SO-17360-082213-MR-151	SO-017360-102313-MR-068	SO-017360-102313-MR-069	SO-017360-102313-MR-070
Sample Date		8/22/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	--	25 J	10 J	95
Molybdenum	ug/kg	--	**20000[bc]**	**39000[bc]**	1200
Nickel	ug/kg	--	85000	41000	11000
Selenium	ug/kg	--	2000 U	330 J	180 J
Silver	ug/kg	--	900 J	260 J	33 J
Thallium	ug/kg	--	53 J	1700 U	90 J
Vanadium	ug/kg	--	6900	6600	5400
Zinc	ug/kg	--	65000	37000	10000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB295-13	SB297-13	SB297-13	SB297-13
Sample Identification		SO-017360-102313-MR-071	SO-017360-102313-MR-073	SO-017360-102313-MR-074	SO-017360-102313-MR-075
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	36 U	41 U	49 U	52 U
1,1,2,2-Tetrachloroethane	ug/kg	36 U	41 U	49 U	52 U
1,1,2-Trichloroethane	ug/kg	36 U	41 U	49 U	52 U
1,1-Dichloroethane	ug/kg	36 U	41 U	49 U	52 U
1,1-Dichloroethene	ug/kg	36 U	41 U	49 U	52 U
1,2,4-Trichlorobenzene	ug/kg	36 U	41 U	49 U	52 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	36 U	41 U	49 U	52 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	36 U	41 U	49 U	52 U
1,2-Dichlorobenzene	ug/kg	36 U	41 U	49 U	52 U
1,2-Dichloroethane	ug/kg	36 U	41 U	49 U	52 U
1,2-Dichloropropane	ug/kg	36 U	41 U	49 U	52 U
1,3-Dichlorobenzene	ug/kg	36 U	41 U	49 U	52 U
1,4-Dichlorobenzene	ug/kg	36 U	41 U	49 U	52 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	240 U	270 U	330 U	350 U
2-Hexanone	ug/kg	36 U	41 U	49 U	52 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	36 U	41 U	49 U	52 U
Acetone	ug/kg	120 U	140 U	160 U	170 U
Benzene	ug/kg	36 U	31 J	49 U	52 U
Bromodichloromethane	ug/kg	36 U	41 U	49 U	52 U
Bromoform	ug/kg	36 U	41 U	49 U	52 U
Bromomethane (Methyl bromide)	ug/kg	89 U	100 U	120 U	130 U
Carbon disulfide	ug/kg	36 U	41 U	49 U	52 U
Carbon tetrachloride	ug/kg	36 U	41 U	49 U	52 U
Chlorobenzene	ug/kg	36 U	41 U	49 U	52 U
Chloroethane	ug/kg	120 U	140 U	160 U	170 U
Chloroform (Trichloromethane)	ug/kg	36 U	41 U	49 U	52 U
Chloromethane (Methyl chloride)	ug/kg	120 U	140 U	160 U	170 U
cis-1,2-Dichloroethene	ug/kg	36 U	41 U	49 U	52 U
cis-1,3-Dichloropropene	ug/kg	36 U	41 U	49 U	52 U
Cyclohexane	ug/kg	36 U	41 U	49 U	52 U
Dibromochloromethane	ug/kg	36 U	41 U	49 U	52 U
Dichlorodifluoromethane (CFC-12)	ug/kg	36 U	41 U	49 U	52 U
Ethylbenzene	ug/kg	36 U	24 J	49 U	52 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB295-13	SB297-13	SB297-13	SB297-13
Sample Identification		SO-017360-102313-MR-071	SO-017360-102313-MR-073	SO-017360-102313-MR-074	SO-017360-102313-MR-075
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	36 U	41 U	49 U	52 U
Methyl acetate	ug/kg	1200	270 U	330 U	350 U
Methyl cyclohexane	ug/kg	36 U	140	49 U	52 U
Methyl tert butyl ether (MTBE)	ug/kg	36 U	41 U	49 U	52 U
Methylene chloride	ug/kg	36 U	41 U	49 U	52 U
Styrene	ug/kg	36 U	41 U	49 U	52 U
Tetrachloroethene	ug/kg	36 U	41 U	49 U	52 U
Toluene	ug/kg	36 U	110	49 U	52 U
trans-1,2-Dichloroethene	ug/kg	36 U	41 U	49 U	52 U
trans-1,3-Dichloropropene	ug/kg	36 U	41 U	49 U	52 U
Trichloroethene	ug/kg	**700**[bc]	**2300**[bcef]	**910**[bc]	**590**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	36 U	41 U	49 U	52 U
Trifluorotrichloroethane (Freon 113)	ug/kg	36 U	41 U	49 U	52 U
Vinyl chloride	ug/kg	36 U	41 U	49 U	52 U
Xylenes (total)	ug/kg	110 U	150	150 U	160 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	110	130	120	33
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB295-13	SB297-13	SB297-13	SB297-13
Sample Identification		SO-017360-102313-MR-071	SO-017360-102313-MR-073	SO-017360-102313-MR-074	SO-017360-102313-MR-075
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	170	7.3 U	100	7.1 U
Acenaphthylene	ug/kg	69	7.3 U	36	7.1 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	440	27	650	36
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	720	120	2400	150
Benzo(a)pyrene	ug/kg	650	130	**2600[o]**	130
Benzo(b)fluoranthene	ug/kg	1200	240	2400	140
Benzo(g,h,i)perylene	ug/kg	600	86	1500	120
Benzo(k)fluoranthene	ug/kg	230	63	1900	120
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	820	130	2500	170
Dibenz(a,h)anthracene	ug/kg	140	31	360	20
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB295-13	SB297-13	SB297-13	SB297-13
Sample Identification		SO-017360-102313-MR-071	SO-017360-102313-MR-073	SO-017360-102313-MR-074	SO-017360-102313-MR-075
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1600	200	5400	270
Fluorene	ug/kg	220	7.3 U	140	7.1 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	390	79	1400	79
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	62	75	53	7.1 U
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1300	180	2000	170
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	1600	180	4200	250
Metals					
Antimony	ug/kg	700	370	240 J	130 J
Arsenic	ug/kg	860	4800	3300	1300
Barium	ug/kg	170000	48000	37000	18000
Beryllium	ug/kg	53 J	290	170 J	90 J
Cadmium	ug/kg	490	210	170 J	97 J
Chromium	ug/kg	10000	9900	13000	5200
Cobalt	ug/kg	940	2800	2700	1700
Copper	ug/kg	6300	17000	14000	9600
Iron	ug/kg	3400000	7000000	5500000	3800000
Lead	ug/kg	52000 J	38000 J	24000 J	10000 J
Manganese	ug/kg	54000	110000	150000	110000

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB295-13	SB297-13	SB297-13	SB297-13
Sample Identification		SO-017360-102313-MR-071	SO-017360-102313-MR-073	SO-017360-102313-MR-074	SO-017360-102313-MR-075
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type					
Sample Depth		(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	18 J	17 J	12 J	9.6 J
Molybdenum	ug/kg	**12000[bc]**	**1800[b]**	**1800[b]**	480
Nickel	ug/kg	8300	11000	12000	4100
Selenium	ug/kg	68 J	380	310 J	190 J
Silver	ug/kg	**2000[d]**	89 J	68 J	52 J
Thallium	ug/kg	13 J	120 J	51 J	45 J
Vanadium	ug/kg	1800	9700	7800	5700
Zinc	ug/kg	58000	22000	28000	17000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB297-13	SB297-13	SB299-13	SB299-13
Sample Identification		SO-017360-102313-MR-076	SO-017360-102313-MR-077	SO-017360-102313-MR-062	SO-017360-102313-MR-063
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	46 U	38 U	53 U
1,1,2,2-Tetrachloroethane	ug/kg	39 U	46 U	38 U	53 U
1,1,2-Trichloroethane	ug/kg	39 U	46 U	38 U	53 U
1,1-Dichloroethane	ug/kg	39 U	46 U	38 U	53 U
1,1-Dichloroethene	ug/kg	39 U	46 U	38 U	53 U
1,2,4-Trichlorobenzene	ug/kg	39 U	46 U	38 U	53 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	39 U	46 U	38 U	53 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	39 U	46 U	38 U	53 U
1,2-Dichlorobenzene	ug/kg	39 U	46 U	38 U	53 U
1,2-Dichloroethane	ug/kg	39 U	46 U	38 U	53 U
1,2-Dichloropropane	ug/kg	39 U	46 U	38 U	53 U
1,3-Dichlorobenzene	ug/kg	39 U	46 U	38 U	53 U
1,4-Dichlorobenzene	ug/kg	39 U	46 U	38 U	53 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	260 U	310 U	250 U	360 U
2-Hexanone	ug/kg	39 U	46 U	38 U	53 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	39 U	46 U	38 U	53 U
Acetone	ug/kg	130 U	150 U	130 U	180 U
Benzene	ug/kg	39 U	46 U	38 U	53 U
Bromodichloromethane	ug/kg	39 U	46 U	38 U	53 U
Bromoform	ug/kg	39 U	46 U	38 U	53 U
Bromomethane (Methyl bromide)	ug/kg	97 U	120 U	95 U	130 U
Carbon disulfide	ug/kg	39 U	46 U	38 U	53 U
Carbon tetrachloride	ug/kg	39 U	46 U	38 U	53 U
Chlorobenzene	ug/kg	39 U	46 U	38 U	53 U
Chloroethane	ug/kg	130 U	150 U	130 U	180 U
Chloroform (Trichloromethane)	ug/kg	39 U	46 U	38 U	53 U
Chloromethane (Methyl chloride)	ug/kg	130 U	150 U	130 U	180 U
cis-1,2-Dichloroethene	ug/kg	39 U	46 U	38 U	53 U
cis-1,3-Dichloropropene	ug/kg	39 U	46 U	38 U	53 U
Cyclohexane	ug/kg	39 U	46 U	38 U	53 U
Dibromochloromethane	ug/kg	39 U	46 U	38 U	53 U
Dichlorodifluoromethane (CFC-12)	ug/kg	39 U	46 U	38 U	53 U
Ethylbenzene	ug/kg	39 U	46 U	38 U	53 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB297-13	SB297-13	SB299-13	SB299-13
Sample Identification		SO-017360-102313-MR-076	SO-017360-102313-MR-077	SO-017360-102313-MR-062	SO-017360-102313-MR-063
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	39 U	46 U	38 U	53 U
Methyl acetate	ug/kg	210 J	280 J	250 U	360 U
Methyl cyclohexane	ug/kg	39 U	46 U	38 U	53 U
Methyl tert butyl ether (MTBE)	ug/kg	39 U	46 U	38 U	53 U
Methylene chloride	ug/kg	39 U	46 U	38 U	53 U
Styrene	ug/kg	39 U	46 U	38 U	53 U
Tetrachloroethene	ug/kg	39 U	46 U	38 U	53 U
Toluene	ug/kg	39 U	46 U	38 U	53 U
trans-1,2-Dichloroethene	ug/kg	39 U	46 U	38 U	53 U
trans-1,3-Dichloropropene	ug/kg	39 U	46 U	38 U	53 U
Trichloroethene	ug/kg	**3000**[bcef]	**3800**[bcef]	**320**[bc]	**17000**[bcdefgh]
Trichlorofluoromethane (CFC-11)	ug/kg	39 U	46 U	38 U	53 U
Trifluorotrichloroethane (Freon 113)	ug/kg	39 U	46 U	38 U	53 U
Vinyl chloride	ug/kg	39 U	46 U	38 U	53 U
Xylenes (total)	ug/kg	120 U	140 U	110 U	160 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	74	83	54	33
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB297-13	SB297-13	SB299-13	SB299-13
Sample Identification		SO-017360-102313-MR-076	SO-017360-102313-MR-077	SO-017360-102313-MR-062	SO-017360-102313-MR-063
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	27	44	7.1 U	43
Acenaphthylene	ug/kg	34	22	110	7.5 U
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	120	140	140	63
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	560	490	400	600
Benzo(a)pyrene	ug/kg	500	480	620	330
Benzo(b)fluoranthene	ug/kg	1300	930	790	2600
Benzo(g,h,i)perylene	ug/kg	700	430	480	1200
Benzo(k)fluoranthene	ug/kg	380	230	490	1200
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	780	550	590	2300
Dibenz(a,h)anthracene	ug/kg	170	110	110	470
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB297-13	SB297-13	SB299-13	SB299-13
Sample Identification		SO-017360-102313-MR-076	SO-017360-102313-MR-077	SO-017360-102313-MR-062	SO-017360-102313-MR-063
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1500	1300	860	1400
Fluorene	ug/kg	25	46	29	7.5 U
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	470	330	410	850
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	76	66	54	84
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	1000	840	320	1200
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	840	900	830	950
Metals					
Antimony	ug/kg	**28000[bc]**	**13000[bc]**	1100	**48000[bc]**
Arsenic	ug/kg	**17000[bcdo]**	**8100[bcdo]**	2500	**22000[bcdo]**
Barium	ug/kg	300000	200000	32000	**1300000[d]**
Beryllium	ug/kg	190 J	190 J	81 J	170 J
Cadmium	ug/kg	**12000[bcd]**	5600	710	**22000[bcd]**
Chromium	ug/kg	**2000000[bcdmn]**	**2700000[bcdmno]**	**58000[bcd]**	**1200000[bcdmn]**
Cobalt	ug/kg	**100000[bcd]**	**52000[bcd]**	5500	**190000[bcd]**
Copper	ug/kg	**880000[d]**	**620000[d]**	50000 J	**5800000[d]**
Iron	ug/kg	**140000000[bc]**	**54000000[bc]**	8200000	**140000000[bc]**
Lead	ug/kg	**2300000 J[bcop]**	**540000 J[o]**	81000	**1800000 J[bcop]**
Manganese	ug/kg	**6200000[bcdmn]**	**3600000[bcdmn]**	210000 J	**4100000[bcdmn]**

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB297-13	SB297-13	SB299-13	SB299-13
Sample Identification		SO-017360-102313-MR-076	SO-017360-102313-MR-077	SO-017360-102313-MR-062	SO-017360-102313-MR-063
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/23/2013
Sample Type			Duplicate		
Sample Depth		(8-10) ft BGS	(8-10) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	83	65	28 J	37 J
Molybdenum	ug/kg	**530000[bcd]**	**330000[bcd]**	**27000[bc]**	**630000[bcd]**
Nickel	ug/kg	**1900000[bcd]**	**1700000[bcd]**	63000	**1500000[bcd]**
Selenium	ug/kg	**570 J[d]**	2100 U	200 J	**420 J[d]**
Silver	ug/kg	**10000[bd]**	**5700[bd]**	**2100[d]**	**11000[bd]**
Thallium	ug/kg	49 J	100 J	40 J	85 J
Vanadium	ug/kg	17000 J	21000 U	5800 J	**110000[b]**
Zinc	ug/kg	**1000000[d]**	**580000[d]**	89000	**4000000[bd]**
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB299-13	SB299-13	SB299-13	SB300-13
Sample Identification		SO-017360-102313-MR-064	SO-017360-102313-MR-065	SO-017360-102313-MR-066	SO-017360-102213-MR-058
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/22/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/kg	39 U	52 U	39 U	32 U
1,1,2,2-Tetrachloroethane	ug/kg	39 U	52 U	39 U	32 U
1,1,2-Trichloroethane	ug/kg	39 U	52 U	39 U	32 U
1,1-Dichloroethane	ug/kg	39 U	52 U	39 U	32 U
1,1-Dichloroethene	ug/kg	39 U	52 U	39 U	32 U
1,2,4-Trichlorobenzene	ug/kg	39 U	52 U	39 U	32 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	39 U	52 U	39 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	39 U	52 U	39 U	32 U
1,2-Dichlorobenzene	ug/kg	39 U	52 U	39 U	32 U
1,2-Dichloroethane	ug/kg	39 U	52 U	39 U	32 U
1,2-Dichloropropane	ug/kg	39 U	52 U	39 U	32 U
1,3-Dichlorobenzene	ug/kg	39 U	52 U	39 U	32 U
1,4-Dichlorobenzene	ug/kg	39 U	52 U	39 U	32 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	260 U	350 U	260 U	220 U
2-Hexanone	ug/kg	39 U	52 U	39 U	32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	39 U	52 U	39 U	32 U
Acetone	ug/kg	130 U	170 U	130 U	110 U
Benzene	ug/kg	39 U	52 U	39 U	32 U
Bromodichloromethane	ug/kg	39 U	52 U	39 U	32 U
Bromoform	ug/kg	39 U	52 U	39 U	32 U
Bromomethane (Methyl bromide)	ug/kg	99 U	130 U	98 U	81 U
Carbon disulfide	ug/kg	39 U	52 U	39 U	32 U
Carbon tetrachloride	ug/kg	39 U	52 U	39 U	32 U
Chlorobenzene	ug/kg	39 U	52 U	39 U	32 U
Chloroethane	ug/kg	130 U	170 U	130 U	110 U
Chloroform (Trichloromethane)	ug/kg	39 U	52 U	39 U	32 U
Chloromethane (Methyl chloride)	ug/kg	130 U	170 U	130 U	110 U
cis-1,2-Dichloroethene	ug/kg	120	52 U	39 U	32 U
cis-1,3-Dichloropropene	ug/kg	39 U	52 U	39 U	32 U
Cyclohexane	ug/kg	39 U	52 U	39 U	32 U
Dibromochloromethane	ug/kg	39 U	52 U	39 U	32 U
Dichlorodifluoromethane (CFC-12)	ug/kg	39 U	52 U	39 U	32 U
Ethylbenzene	ug/kg	39 U	52 U	39 U	32 U

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB299-13	SB299-13	SB299-13	SB300-13
Sample Identification		SO-017360-102313-MR-064	SO-017360-102313-MR-065	SO-017360-102313-MR-066	SO-017360-102213-MR-058
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/22/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
VOCs (continued)					
Isopropyl benzene	ug/kg	39 U	52 U	39 U	32 U
Methyl acetate	ug/kg	260 U	350 U	260 U	220 U
Methyl cyclohexane	ug/kg	39 U	52 U	39 U	32 U
Methyl tert butyl ether (MTBE)	ug/kg	39 U	52 U	39 U	32 U
Methylene chloride	ug/kg	39 U	52 U	39 U	32 U
Styrene	ug/kg	39 U	52 U	39 U	32 U
Tetrachloroethene	ug/kg	39 U	52 U	39 U	32 U
Toluene	ug/kg	39 U	52 U	39 U	32 U
trans-1,2-Dichloroethene	ug/kg	64	52 U	39 U	32 U
trans-1,3-Dichloropropene	ug/kg	39 U	52 U	39 U	32 U
Trichloroethene	ug/kg	**15000**[bcdefgh]	**11000**[bcdef]	**1100 J**[bce]	**320**[bc]
Trichlorofluoromethane (CFC-11)	ug/kg	39 U	52 U	39 U	32 U
Trifluorotrichloroethane (Freon 113)	ug/kg	39 U	52 U	39 U	32 U
Vinyl chloride	ug/kg	39 U	52 U	39 U	32 U
Xylenes (total)	ug/kg	120 U	160 U	120 U	97 U
Semi-Volatile Organic Compounds (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylnaphthalene	ug/kg	33	7.3 U	7.1 UJ	56
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--	--

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB299-13	SB299-13	SB299-13	SB300-13
Sample Identification		SO-017360-102313-MR-064	SO-017360-102313-MR-065	SO-017360-102313-MR-066	SO-017360-102213-MR-058
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/22/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
3-Nitroaniline	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
Acenaphthene	ug/kg	36	55	7.1 UJ	7.2 U
Acenaphthylene	ug/kg	7.4 U	7.3 U	7.1 UJ	120
Acetophenone	ug/kg	--	--	--	--
Anthracene	ug/kg	50	40	7.1 UJ	710
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzo(a)anthracene	ug/kg	430	470	61 J	2200
Benzo(a)pyrene	ug/kg	290	470	73 J	**2700[o]**
Benzo(b)fluoranthene	ug/kg	1700	1700	110 J	2700
Benzo(g,h,i)perylene	ug/kg	880	1100	47 J	1600
Benzo(k)fluoranthene	ug/kg	930	1100	29 J	2500
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Chrysene	ug/kg	1600	1400	54 J	2400
Dibenz(a,h)anthracene	ug/kg	340	410	22 J	340
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB299-13	SB299-13	SB299-13	SB300-13
Sample Identification		SO-017360-102313-MR-064	SO-017360-102313-MR-065	SO-017360-102313-MR-066	SO-017360-102213-MR-058
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/22/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
SVOCs (continued)					
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--	--
Fluoranthene	ug/kg	1100	950	100 J	5000
Fluorene	ug/kg	7.4 U	7.3 U	7.1 UJ	260
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	650	890	50 J	1400
Isophorone	ug/kg	--	--	--	--
Naphthalene	ug/kg	66	130	7.1 UJ	36
Nitrobenzene	ug/kg	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenanthrene	ug/kg	860	870	40 J	**2700[d]**
Phenol	ug/kg	--	--	--	--
Pyrene	ug/kg	660	620	94 J	4200
Metals					
Antimony	ug/kg	**51000[bc]**	**81000[bc]**	460 J	270 J
Arsenic	ug/kg	**21000[bcdo]**	**25000[bcdo]**	1500 J	2000 J
Barium	ug/kg	**1200000[d]**	**1800000[bcd]**	58000	23000
Beryllium	ug/kg	150 J	190 J	150 J	120 J
Cadmium	ug/kg	**24000[bcd]**	**28000[bcd]**	220 J	160 J
Chromium	ug/kg	**1300000[bcdmn]**	**1600000[bcdmn]**	**29000[d]**	12000
Cobalt	ug/kg	**250000[bcd]**	**180000[bcd]**	3800	2400
Copper	ug/kg	**5000000[d]**	**8800000[bcd]**	31000	15000 J
Iron	ug/kg	**130000000[bc]**	**160000000[bc]**	6800000	5200000
Lead	ug/kg	**4400000 J[bcop]**	**6600000 J[bcop]**	30000 J	14000
Manganese	ug/kg	**4000000[bcdmn]**	**6800000[bcdmn]**	160000	140000 J

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB299-13	SB299-13	SB299-13	SB300-13
Sample Identification		SO-017360-102313-MR-064	SO-017360-102313-MR-065	SO-017360-102313-MR-066	SO-017360-102213-MR-058
Sample Date		10/23/2013	10/23/2013	10/23/2013	10/22/2013
Sample Type		Duplicate			
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(2-4) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40	AOI 40
Metals (continued)					
Mercury	ug/kg	40	26 J	18 J	26 J
Molybdenum	ug/kg	**610000[bcd]**	**670000[bcd]**	**8600[bc]**	**2900[b]**
Nickel	ug/kg	**2000000[bcd]**	**1800000[bcd]**	26000	9900
Selenium	ug/kg	**540 J[d]**	**700 J[d]**	2000 U	2100 U
Silver	ug/kg	**11000[bd]**	**13000[bd]**	120 J	180 J
Thallium	ug/kg	77 J	70 J	58 J	58 J
Vanadium	ug/kg	**83000[b]**	**91000[b]**	8600	7500 J
Zinc	ug/kg	**4700000[bd]**	**6200000[bcd]**	72000	25000
Polychlorinated biphenyl (PCBs)					
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB300-13	SB300-13	SB300-13
Sample Identification		SO-017360-102213-MR-059	SO-017360-102213-MR-060	SO-017360-102213-MR-061
Sample Date		10/22/2013	10/22/2013	10/22/2013
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/kg	36 U	82 U	35 U
1,1,2,2-Tetrachloroethane	ug/kg	36 U	82 U	35 U
1,1,2-Trichloroethane	ug/kg	36 U	82 U	35 U
1,1-Dichloroethane	ug/kg	36 U	82 U	35 U
1,1-Dichloroethene	ug/kg	36 U	82 U	35 U
1,2,4-Trichlorobenzene	ug/kg	36 U	82 U	35 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	36 U	82 U	35 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	36 U	82 U	35 U
1,2-Dichlorobenzene	ug/kg	36 U	82 U	35 U
1,2-Dichloroethane	ug/kg	36 U	82 U	35 U
1,2-Dichloropropane	ug/kg	36 U	82 U	35 U
1,3-Dichlorobenzene	ug/kg	36 U	82 U	35 U
1,4-Dichlorobenzene	ug/kg	36 U	82 U	35 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	240 U	540 U	230 U
2-Hexanone	ug/kg	36 U	82 U	35 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	36 U	82 U	35 U
Acetone	ug/kg	120 U	270 U	120 U
Benzene	ug/kg	36 U	82 U	35 U
Bromodichloromethane	ug/kg	36 U	82 U	35 U
Bromoform	ug/kg	36 U	82 U	35 U
Bromomethane (Methyl bromide)	ug/kg	90 U	200 U	86 U
Carbon disulfide	ug/kg	36 U	82 U	35 U
Carbon tetrachloride	ug/kg	36 U	82 U	35 U
Chlorobenzene	ug/kg	36 U	82 U	35 U
Chloroethane	ug/kg	120 U	270 U	120 U
Chloroform (Trichloromethane)	ug/kg	36 U	82 U	35 U
Chloromethane (Methyl chloride)	ug/kg	120 U	270 U	120 U
cis-1,2-Dichloroethene	ug/kg	36 U	82 U	35 U
cis-1,3-Dichloropropene	ug/kg	36 U	82 U	35 U
Cyclohexane	ug/kg	36 U	82 U	35 U
Dibromochloromethane	ug/kg	36 U	82 U	35 U
Dichlorodifluoromethane (CFC-12)	ug/kg	36 U	82 U	35 U
Ethylbenzene	ug/kg	36 U	82 U	35 U

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		**SB300-13**	**SB300-13**	**SB300-13**
Sample Identification		**SO-017360-102213-MR-059**	**SO-017360-102213-MR-060**	**SO-017360-102213-MR-061**
Sample Date		**10/22/2013**	**10/22/2013**	**10/22/2013**
Sample Type				
Sample Depth		**(4-6) ft BGS**	**(6-8) ft BGS**	**(8-10) ft BGS**
Excavation Status	**Units**	**Unexcavated**	**Unexcavated**	**Unexcavated**
AOI		**AOI 40**	**AOI 40**	**AOI 40**
VOCs (continued)				
Isopropyl benzene	ug/kg	36 U	82 U	35 U
Methyl acetate	ug/kg	240 U	540 U	230 U
Methyl cyclohexane	ug/kg	36 U	82 U	35 U
Methyl tert butyl ether (MTBE)	ug/kg	36 U	82 U	35 U
Methylene chloride	ug/kg	36 U	82 U	35 U
Styrene	ug/kg	36 U	82 U	35 U
Tetrachloroethene	ug/kg	36 U	82 U	35 U
Toluene	ug/kg	36 U	82 U	35 U
trans-1,2-Dichloroethene	ug/kg	36 U	82 U	35 U
trans-1,3-Dichloropropene	ug/kg	36 U	82 U	35 U
Trichloroethene	ug/kg	36 U	**3600**[bcef]	35 U
Trichlorofluoromethane (CFC-11)	ug/kg	36 U	82 U	35 U
Trifluorotrichloroethane (Freon 113)	ug/kg	36 U	82 U	35 U
Vinyl chloride	ug/kg	36 U	82 U	35 U
Xylenes (total)	ug/kg	110 U	250 U	100 U
Semi-Volatile Organic Compounds (SVOCs)				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--
2-Chloronaphthalene	ug/kg	--	--	--
2-Chlorophenol	ug/kg	--	--	--
2-Methylnaphthalene	ug/kg	140 U	49	7.0 U
2-Methylphenol	ug/kg	--	--	--
2-Nitroaniline	ug/kg	--	--	--
2-Nitrophenol	ug/kg	--	--	--
3,3'-Dichlorobenzidine	ug/kg	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB300-13	SB300-13	SB300-13
Sample Identification		SO-017360-102213-MR-059	SO-017360-102213-MR-060	SO-017360-102213-MR-061
Sample Date		10/22/2013	10/22/2013	10/22/2013
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40
SVOCs (continued)				
3-Nitroaniline	ug/kg	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--
4-Chloroaniline	ug/kg	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--
4-Methylphenol	ug/kg	--	--	--
4-Nitroaniline	ug/kg	--	--	--
4-Nitrophenol	ug/kg	--	--	--
Acenaphthene	ug/kg	140 U	7.0 U	7.0 U
Acenaphthylene	ug/kg	140 U	7.0 U	7.0 U
Acetophenone	ug/kg	--	--	--
Anthracene	ug/kg	660	7.0 U	20
Atrazine	ug/kg	--	--	--
Benzaldehyde	ug/kg	--	--	--
Benzo(a)anthracene	ug/kg	1500	7.0 U	73
Benzo(a)pyrene	ug/kg	1100	7.0 U	58
Benzo(b)fluoranthene	ug/kg	1200	7.0 U	54
Benzo(g,h,i)perylene	ug/kg	1100	7.0 U	56
Benzo(k)fluoranthene	ug/kg	1100	7.0 U	55
Biphenyl (1,1-Biphenyl)	ug/kg	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	--	--	--
bis(2-Chloroethyl)ether	ug/kg	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	--	--	--
Caprolactam	ug/kg	--	--	--
Carbazole	ug/kg	--	--	--
Chrysene	ug/kg	1200	7.0 U	65
Dibenz(a,h)anthracene	ug/kg	140 U	7.0 U	7.0 U
Dibenzofuran	ug/kg	--	--	--
Diethyl phthalate	ug/kg	--	--	--
Dimethyl phthalate	ug/kg	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	--	--	--

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB300-13	SB300-13	SB300-13
Sample Identification		SO-017360-102213-MR-059	SO-017360-102213-MR-060	SO-017360-102213-MR-061
Sample Date		10/22/2013	10/22/2013	10/22/2013
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40
SVOCs (continued)				
Di-n-octyl phthalate (DnOP)	ug/kg	--	--	--
Fluoranthene	ug/kg	2800	7.0 U	120
Fluorene	ug/kg	140 U	7.0 U	7.0 U
Hexachlorobenzene	ug/kg	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--
Hexachloroethane	ug/kg	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	600	7.0 U	31
Isophorone	ug/kg	--	--	--
Naphthalene	ug/kg	140 U	33	7.0 U
Nitrobenzene	ug/kg	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--
Pentachlorophenol	ug/kg	--	--	--
Phenanthrene	ug/kg	1700	45	82
Phenol	ug/kg	--	--	--
Pyrene	ug/kg	1900	7.0 U	110
Metals				
Antimony	ug/kg	360 J	160 J	52 J
Arsenic	ug/kg	3000	**10000[bcdo]**	2300
Barium	ug/kg	27000	76000	17000
Beryllium	ug/kg	180 J	370 J	130 J
Cadmium	ug/kg	180 J	48 J	54 J
Chromium	ug/kg	9200	3700	7000
Cobalt	ug/kg	2500	4000	2500
Copper	ug/kg	8600 J	13000 J	7400 J
Iron	ug/kg	5700000	10000000	6900000
Lead	ug/kg	14000	950	9100
Manganese	ug/kg	110000 J	16000 J	160000 J

Table 3.44

Soil Sample Analytical Results - AOI 40 - On-Site Fill Area (Zc Area)
No Further Action Report
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location		SB300-13	SB300-13	SB300-13
Sample Identification		SO-017360-102213-MR-059	SO-017360-102213-MR-060	SO-017360-102213-MR-061
Sample Date		10/22/2013	10/22/2013	10/22/2013
Sample Type				
Sample Depth		(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Excavation Status	Units	Unexcavated	Unexcavated	Unexcavated
AOI		AOI 40	AOI 40	AOI 40
Metals (continued)				
Mercury	ug/kg	34 J	20 J	32 J
Molybdenum	ug/kg	**2000**[b]	1300	320 J
Nickel	ug/kg	7600	8300	6700
Selenium	ug/kg	1900 U	**670**[d]	350 J
Silver	ug/kg	180 J	12 J	9.5 J
Thallium	ug/kg	56 J	77 J	46 J
Vanadium	ug/kg	8400 J	6200 J	11000 J
Zinc	ug/kg	77000	3800	16000
Polychlorinated biphenyl (PCBs)				
Aroclor-1016 (PCB-1016)	ug/kg	--	--	--
Aroclor-1221 (PCB-1221)	ug/kg	--	--	--
Aroclor-1232 (PCB-1232)	ug/kg	--	--	--
Aroclor-1242 (PCB-1242)	ug/kg	--	--	--
Aroclor-1248 (PCB-1248)	ug/kg	--	--	--
Aroclor-1254 (PCB-1254)	ug/kg	--	--	--
Aroclor-1260 (PCB-1260)	ug/kg	--	--	--
Total PCBs	ug/kg	--	--	--

Appendices

Appendix A
Declaration of Restrictive Covenant

21/12/13

RECD KENT COUNTY, MI REG
2017 AUG 30 AM 9:22

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Kent Cnty MI Rgstr 08/31/2017 SEAL

DECLARATION OF RESTRICTIVE COVENANT

MDEQ Reference No: RC-RRD-201-17-006
Part 201 Site Identification Number: 41000115
USEPA Site Identification Number: MID006020408
MDEQ Approval Date: March 3, 2017

This Declaration of Restrictive Covenant ("Restrictive Covenant") has been recorded with the Kent County Register of Deeds to protect public health, safety, or welfare or the environment pursuant to the applicable provisions of Part 201, entitled "Environmental Remediation," MCL 324.20101 *et seq.* ("Part 201"), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101, *et seq.* ("NREPA"), the administrative rules promulgated pursuant to Part 201, Michigan Administrative Code (MAC) R 299.5101 *et seq.*, and the Toxic Substances Control Act, 15 USC 2601 *et seq.* ("TSCA").

This Restrictive Covenant is made by the City of Wyoming Brownfield Redevelopment Authority ("WBRA"), the address of which is 1155 28th Street, Wyoming, MI 49509, the Grantor and current fee title holder of the property legally described and illustrated in Exhibit 1, commonly known as 300 and 301 36th Street SW in the City of Wyoming, Kent County, Michigan, tax identification numbers 41-17-24-201-007 and 41-17-13-455-052 (the "Property"), for the benefit of the Grantee, State of Michigan, Department of Environment Quality, the address of which is 525 West Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973 ("MDEQ").

The recording of this Restrictive Covenant replaces in its entirety the Declaration of Restrictive Covenant and Access Easement dated as of June 27, 2011, and recorded with the Kent County Register of Deeds on July 19, 2011 as Document 20110719-0057582 (the "2011 Restrictive Covenant and Easement"). The 2011 Restrictive Covenant and Easement will be terminated by MDEQ and RACER Properties LLC, after the recordation of this Restrictive Covenant.

This Restrictive Covenant has been prepared and recorded (i) to prohibit or restrict activities that could result in unacceptable exposure to environmental contamination present at the Property, and (ii) to assure that the use of the Property is consistent with the exposure assumptions used to develop the nonresidential clean-up criteria under Part 201, the Low Occupancy clean-up level under TSCA, and the exposure control measures relied upon at the Property.

NOS-866546 MC FATCO

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Recording of this Restrictive Covenant with the Kent County Register of Deeds is designed to: (1) restrict land uses at the Property; (2) restrict exposures to groundwater on the Property; (3) provide notification that Polychlorinated Biphenyls (PCB) Remediation Waste (impacted soil) remains on the Property in the areas described and illustrated in Exhibit 2; (4) restrict use of the designated PCB Remediation Waste Areas at the Property to Low Occupancy as described and illustrated in Exhibit 2; (5) require any future work or other activities on the Property by or for the Owner to be conducted in conformance with; i) applicable MDEQ soil relocation requirements including but not limited to MCL 324.20120c and any related administrative rules, ii) applicable due care obligations under MCL 324.20107a and associated administrative rules and guidance, and iii) the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), 29 CFR, Part 1910; (6) prohibit structures from being constructed on the Property unless the Owner has assessed the potential for vapor intrusion, if any, and has taken steps to address such potential, if necessary, as may be required by applicable laws, rules and regulations; (7) require infiltration management in the designated area of the Property as described and illustrated in Exhibit 3; (8) provide notification that, as of the date of this Restrictive Covenant, impacted soil above the Part 201 non-residential direct contact criteria and particulate soil inhalation criteria remains on the Property in the locations described and illustrated in Exhibit 4, and (9) provide notification that, as of the date of this Restrictive Covenant, residual light non aqueous phase liquid ("LNAPL") potentially remains on the Property in the location described and illustrated in Exhibit 5.

The land or resource use restrictions contained in this Restrictive Covenant are based upon information available to MDEQ at the time this document was recorded and based on laws, rules and regulations in effect at the time this document was recorded. Future changes in the environmental condition of the Property, changes in the cleanup criteria or the cleanup levels included in applicable laws, rules and regulations, the discovery of environmental conditions at the Property that were not known at the time this document was recorded; or use of the Property in a manner inconsistent with the restrictions described herein, may result in the need for additional restrictions to protect the public health, safety, welfare, or the environment, or in the ability to modify restrictions while still protecting the public health, safety, and welfare, and the environment.

This Restrictive Covenant cites laws, rules and regulations in effect at the time it was recorded. To the extent those laws, rules or regulations are subsequently amended, replaced or otherwise superseded, this Amended Restrictive Covenant shall be read to incorporate those amending, replacing or otherwise superseding laws, rules and regulations in place of those currently cited herein.

Information pertaining to the environmental conditions at the Property and the response action undertaken at the Property is on file with the MDEQ, Remediation and Redevelopment Division, Grand Rapids District Office.

Based on the results of Site investigations, the Property contains hazardous substances in soils and groundwater in excess of the concentrations developed as the unrestricted residential

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criteria under Section 20120a(1)(a) or (17) of NREPA, 1994 PA 451, as amended, and above TSCA High Occupancy levels per 40 CFR Part 761.3. MDEQ recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of Section 20107a of NREPA.

Definitions

"Grantee" means the MDEQ.

"Grantor" means the WBRA, and any future title holder of the Property or some relevant sub-portion of the Property.

"MDEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then-current fee title holder(s) of the Property or any portion thereof, including the fee title holder's lessees and those persons or entities authorized to act on its behalf. Record legal title to the Property at the time this Restrictive Covenant was recorded was held by the WBRA.

"RACER" means the Revitalizing Auto Communities Environmental Response Trust ("Trust"), which on March 31, 2011 was established and assumed the rights, title, and interest of Motors Liquidation Company in and to the Property pursuant to an Environmental Response Trust Consent Decree and Settlement Agreement ("Settlement Agreement") entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of *In re Motors Liquidation Company*, et al., Debtors, Case No. 09-50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust).

"USEPA" means the United States Environmental Protection Agency, its successor entities, and those persons or entities acting on its behalf.

All other terms used in this document which are defined in Part 3 Definitions, Part 201 of NREPA, Part 201 of Michigan Administrative Rules, TSCA, or 40 CFR 761, shall have the same meaning in this document as in those statutes and rules as on the date this Restrictive Covenant is made.

Summary of Response Activities

Several environmental assessments of the Property and groundwater monitoring events were conducted between 1981 and 2017 to identify and document environmental conditions, and the

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presence at the Property of substances posing an adverse environmental impact as a result of past operations.

Based on these assessments, soil was found to contain certain metals, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and PCBs in several discrete areas of the Property at concentrations exceeding the corresponding Part 201 nonresidential drinking water protection, groundwater-surface water interface protection, nonresidential volatilization to indoor air inhalation, non-residential direct contact and/or nonresidential particulate soil inhalation criteria. Concentrations of PCBs found in soil also exceeded the TSCA criteria for bulk PCB Remediation Waste in High Occupancy Areas without further conditions (40 CFR 761.61(1)(4)(i)). The horizontal and vertical extent of soil conditions exceeding non-residential direct contact and particulate soil inhalation criteria were delineated in 2013. Soil remediation activities conducted in 2012 and 2015 included the removal and off-site disposal of approximately 4 to 8 feet of impacted soil in select areas; a total of approximately 5,800 tons. These areas were backfilled and restored. Post-excavation soil sampling and analyses indicate the presence of certain metals and benzo(a)pyrene exceeding Part 201 non-residential direct contact and particulate soil inhalation criteria, and PCBs exceeding the TSCA criteria for bulk PCB Remediation Waste in High Occupancy Areas, without further conditions, remain in limited areas. See Exhibit 4 for locations where soil with concentrations of specific constituents exceed Part 201 non-residential direct contact and/or particulate soil inhalation cleanup criteria. An area in the northwestern portion of the Property containing exceedances of Part 201 cleanup criteria for protection of the groundwater-surface water interface is a concern because of the proximity of the area to Cole Drain, which runs near the northwestern Property boundary.

Based on the environmental assessments and groundwater monitoring, groundwater at the Site was found to contain VOCs, PAHs, and/or metals exceeding Part 201 non-residential drinking water criteria and/or the groundwater-surface water interface criteria.

Based on past observation of LNAPL in monitoring wells at the Property, residual LNAPL, as defined in MDEQ's June 2014 Non-Aqueous Phase Liquid (NAPL) Characterization, Remediation, and Management for Petroleum Releases, RRD Resource Materials-25-2014-01, may remain on the Property. As of the date of this Restrictive Covenant there is no observable LNAPL in monitoring wells at the Property. The Potential Residual LNAPL Area is described and illustrated in Exhibit 5. This LNAPL contains mineral spirits/mineral seal oil and/or hydraulic oil. Contaminants present in the Potential Residual LNAPL Area were properly characterized and assessed, and will remain in place at the Property. The potential for the presence of residual LNAPL exists from approximately seventeen (17) to twenty-five (25) feet below ground surface (approximately from 655 to 663 feet above mean sea level, at the time this Restrictive Covenant was recorded. The restrictions provided for in this Restrictive Covenant serve to prevent unacceptable exposure to hazardous substances as a result of possible conditions created by the potential presence of residual LNAPL in soil and groundwater that may exceed the unrestricted nonresidential criteria under Section 20120a(1)(a) of NREPA.

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At the time this Restrictive Covenant was recorded, RACER was pursuing a No Further Action determination for the Property from MDEQ.

NOW THEREFORE,

Declaration of Land Use or Resource Use Restrictions

Grantor as the current fee title holder of the Property hereby declares and covenants that the Property shall be subject to the following restrictions and conditions and intends that said restrictions and covenants shall run with the land, and may be enforced, as provided herein, in perpetuity against the Owner by the following entities: (1) MDEQ; (2) USEPA; (3) WBRA; and (4) RACER or its successor.

1. Land Use Prohibitions. The Owner shall not make any use and shall prohibit all uses of the Property that are not compatible or consistent with the exposure assumptions for the nonresidential cleanup criteria established pursuant to Section 324.20120a(1)(b) of NREPA, and generally described in the Description of Allowable Uses, attached hereto as Exhibit 6.

   Part 201 cleanup criteria for land use-based response activities are located in the Government Documents Section of the State of Michigan Library, MCL 324.201201, *et seq.*, effective December 31, 2013, and MAC R 299.5701 – R 299.5727, also effective December 31, 2013.

   The Owner shall prohibit uses of the PCB Waste Remediation Areas delineated on Exhibit 2 (soil containing less than 10 milligrams/kilogram (mg/kg or ppm) PCBs) not consistent with Low Occupancy, as defined in 40 CFR 761.3. The Owner must apply to USEPA, under 40 CFR 761.61(a), for approval to change the Low Occupancy use restriction.

2. Notification of PCB Remediation Waste. This provision provides the notification required by 40 CFR Part 761.61(a)(8)(i)(A) that PCB Remediation Waste is present on the Property. PCB Remediation Waste (soil containing less than 10 ppm) is present in two areas at the Property as delineated in Exhibit 2 (the "PCB Remediation Waste Areas"). These areas are designated Low Occupancy Areas.

3. Activities Prohibited. The Owner shall prohibit activities on the Property that may result in exposures above the nonresidential land use category and, for Low Occupancy levels for the PCB Remediation Waste Areas. These prohibited activities include:

   a. No drinking water or irrigation wells exist on the Property at the time of the execution of this Restrictive Covenant and no drinking water or irrigation wells may be installed or used on the Property.

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b. No groundwater extraction wells may be installed or used on the Property except for wells and devices that are part of an MDEQ-approved response activity and for short-term dewatering for construction purposes, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable environmental laws and does not cause or result in a new release, exacerbation of any pre-existing environmental condition, or any other violation of environmental laws.

c. No contaminated soils, if any, may be relocated on the Property except as provided for under Part 201, Section 20120c, MCL 324.20120c.

d. No "treatment", "storage", "disposal", or "release" of any Hazardous Substances, on, at, or below the Property, in a manner that would require a permit under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 *et seq.* ("RCRA"), or equivalent state law, except pursuant to a plan or permit approved in writing by MDEQ as provided by applicable laws, rules and regulations.

e. No construction or occupying any structure on the Property without first completing one of the following options. Option 1: Evaluate and demonstrate to the satisfaction of MDEQ, in accordance with applicable environmental laws, rules, or regulations that no unacceptable vapor intrusion risks to human health exist in any existing or newly constructed site buildings. Option 2: With concurrence from the MDEQ, install, operate, and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria. This prohibition does not apply to short-term occupancy of a building for purposes of construction, renovation, repair, or other short-term activities as long as adequate health and safety precautions are employed during these activities, and they are performed in compliance with Section 20107a of NREPA.

   If Option 2 above is selected, the Owner shall install and, until MDEQ concurs that it is no longer necessary in accordance with Option 1, thereafter maintain a vapor barrier and/or install and thereafter operate and maintain a vapor intrusion mitigation system in accordance with applicable standards and criteria at the time, for the purpose of mitigating the potential intrusion of soil vapor below any building constructed on the property after the date of this Restrictive Covenant.

f. No removal of the existing surface cover or activities that otherwise increase infiltration in the Infiltration Management Area, which is delineated in Exhibit 3. The existing surface cover in the Infiltration Management Area shall be maintained so that the cover minimizes infiltration. New or different surface cover that is equally or more effective as the existing cover in preventing

infiltration may be installed if the new or different cover is approved by MDEQ. In addition, the Owner shall not construct or install subgrade utilities, structures or other features in the Infiltration Management Area unless the construction incorporates engineering controls designed to eliminate the potential for perched water to enter the utility and/or migrate along the utility corridor, or for the utility/structure/feature to release fluids that could infiltrate through the subsurface and exacerbate impacts to groundwater. The construction details for any such utility, structure or feature shall be approved by MDEQ prior to its construction.

g. No excavation or other intrusive activity within the PCB Remediation Waste Areas unless such work is performed in compliance with 40 CFR 1910.120, and shall not result in the exposure to workers not wearing required personal protective equipment (PPE).

h. No disturbing or damaging any monitoring wells (if present) on the Property without the prior written approval of MDEQ. If reasonably needed to accommodate development of the Property, Grantor or the Owner may request in writing to MDEQ and RACER at the addresses provided in Paragraph 7, to relocate or remove RACER's monitoring wells. MDEQ, after considering any written comments made by RACER, may approve such a request. RACER, MDEQ, and USEPA shall be provided access by the Owner to and use of any relocated monitoring wells.

4. Removal of Pavement. If the Owner elects to remove any slabs, pavement or other impervious surface on the Property, Owner shall be responsible for any and all obligations under environmental laws arising from any such removal, alteration or disturbance, whether or not caused by, arising from or related to, an environmental condition.

5. Contaminated Soil Management. The Owner shall manage contaminated soils, media and/or debris (if any) and all other soils located on the Property in accordance with any applicable requirements of Part 111, the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 USC 6901 *et seq.*, the administrative rules promulgated pursuant to Part 111 and RCRA, TSCA, and all other relevant state and federal laws, including but not limited to MCL 324.20120c.

6. Access. The Owner shall grant MDEQ, USEPA, WBRA, and RACER the right to enter the Property at reasonable times: (1) to conduct and complete any and all response activities, together with any reasonably needed ingress and egress to the Property; and (2) for the purpose of determining and monitoring compliance with this Restrictive Covenant, including the right to take samples and, inspect any records relating thereto, and to perform any actions necessary to maintain compliance with Part 111 and Part

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201, or 40 CFR 761. To the extent reasonably feasible, such entry shall occur at times and under conditions as are reasonably acceptable to the Owner and occupants of the Property and in compliance with security, safety, and other protocols of the Owner and occupants of the Property.

7. Notices. Any notice, demand, request, consent, approval, or communication that is required to be made or obtained under this Restrictive Covenant shall be made in writing; include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant; include the USEPA Identification Number: MID006020408; and MDEQ Reference Number: RC-RRD-201-17-006; and shall be served either personally, or sent via first class mail, postage prepaid, as follows:

For MDEQ:

Michigan Department of Environmental Quality
Remediation and Redevelopment Division
350 Ottawa N.W.
Grand Rapids, MI 49503

For USEPA:

Director
Land and Chemicals Division (DR-8J)
U.S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

with a copy to:

Office of Regional Counsel (C-14J)
U.S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

For WBRA:

City of Wyoming Brownfield Redevelopment Authority
c/o City Manager
1155 28th Street
Wyoming, MI 49509

with a copy to:

City of Wyoming
c/o City Clerk
1155 28th Street

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Wyoming, MI 49509

For RACER:

General Counsel
RACER Trust
500 Woodward Avenue, Suite 2650
Detroit, MI 48226

with a copy to:

Michigan Cleanup Manager
RACER Trust
500 Woodward Avenue, Suite 2650
Detroit, MI 48226

8. Conveyance of Property Interest. The Owner shall provide notice to the MDEQ, USEPA, WBRA, and RACER at the addresses provided in Paragraph 7, of the Owner's intent to transfer any interest in the Property at least fourteen (14) days prior to consummating the conveyance. A conveyance of title, easement, or other interest in the Property shall not be consummated by the Owner without providing the prospective grantee a copy of this Restrictive Covenant and referring the prospective grantee to MCL 324.20116. The notice required to be made under this Paragraph shall include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant. Owner shall include in any instrument conveying any interest in any portion of the Property, including, but not limited to, deeds, leases, and mortgages, a notice which is in substantially the following form:

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO A DECLARATION OF RESTRICTIVE COVENANT DATED _____ [*month, day, year*], AND RECORDED WITH THE KENT COUNTY REGISTER OF DEEDS, LIBER _____, PAGE _____.

The Owner shall provide a copy of this Restrictive Covenant to all future owners, heirs, successors, lessees, easement holders, assigns, and transferees by the person transferring the interest.

9. Term. This Restrictive Covenant shall run with the Property and shall be binding on the Owner, and all current and future successors, lessees, easement holders, their assigns, and their authorized agents, employees, or persons acting under their direction and control.

10. Modification/Release/Rescission. Grantor or Owner may request in writing to MDEQ and RACER, with a copy to USEPA and WBRA at the addresses provided in Paragraph 7, modifications to, or release or rescission of, this Restrictive Covenant. This Restrictive Covenant may be modified, released or rescinded only with the written

approval of MDEQ and RACER, after considering any written comments made by USEPA and WBRA. A modification of any provision of this Restrictive Covenant concerning requirements under TSCA or RCRA or affecting the PCB Remediation Waste Areas shall require approval of USEPA and RACER, and any request for such a modification shall be made to USEPA and RACER, with copies to the MDEQ and WBRA. RACER shall approve a modification, release, or rescission of this Restrictive Covenant in support of the Property's redevelopment, unless RACER in good faith reasonably believes that by so approving, the scope of RACER's environmental obligations with respect to the Property, and the associated costs of such obligations, would expand beyond RACER's allocated "Minimum Estimated Property Funding" and "Reserve Property Funding" for the Property. Any approved modification to, or release or rescission of, this Restrictive Covenant shall be filed with the appropriate Registrar of Deeds by the Grantor or Owner and a certified copy shall be returned to MDEQ, USEPA, WBRA, and RACER, at the addresses provided Paragraph 7.

11. Compliance with this Restrictive Covenant and Applicable Due Care Obligations. The Owner shall at all times comply with the conditions and restrictions of this Restrictive Covenant and the applicable due care obligations under Section 20107a of NREPA and CERCLA, 42 U.S.C. §§ 9601, *et seq.* Owner shall maintain records of its applicable due care activities and shall supply copies of any records documenting such compliance upon request from MDEQ, USEPA, WBRA, or RACER.

12. Enforcement. MDEQ, USEPA, WBRA, and RACER are entitled to enforce the restrictions and covenants is this Restrictive Covenant by specific performance or other legal action in a court of competent jurisdiction against the current and subsequent Owners of all or part of the Property. All remedies available hereunder shall be in addition to any and all other remedies at law or equity.

13. Severability. If any provision of this Restrictive Covenant is held to be invalid by a court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions of this Restrictive Covenant and all other provisions shall continue to remain in full force and effect.

14. Limitation on RACER's Liability. RACER's and the Administrative Trustee's liability are limited by the terms and conditions of the Settlement Agreement, which are incorporated herein by reference.

15. Authority to Execute Restrictive Covenant. The execution of this Restrictive Covenant by the WBRA was authorized by a resolution of the WBRA Board of Directors at a meeting held on June 19, 2017.

16. Miscellaneous.

    a) Controlling Law. The interpretation and performance of this Restrictive Covenant shall be governed by the laws of the United States as to the obligations referred

to in the Settlement Agreement and the laws and regulations of the State of Michigan for all other purposes hereunder (without reference to choice of laws principles thereof). The right to enforce the conditions and restrictions in this Restrictive Covenant are in addition to other rights and remedies that may be available, including, but not limited to, administrative and judicial remedies under CERCLA or Part 201 of the NREPA.

b) Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Restrictive Covenant shall be liberally construed to affect the purpose of this Restrictive Covenant, and the policy and purpose of TSCA, RCRA, and the land use restrictions and prospective use limitations required by Part 201. If any provision of this Restrictive Covenant is found to be ambiguous, an interpretation consistent with the purpose of this Restrictive Covenant that would render the provision valid shall be favored over any interpretation that would render it invalid.

c) Entire Agreement. This Restrictive Covenant and its attachments and appendices supersedes all prior discussions, negotiations, understandings, or agreements relating specifically to this Restrictive Covenant, all of which are merged herein.

[signature page follows]

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Lisa Posthumus Lyons P:12/21 3:58PM
Kent Cnty MI Rgstr 08/31/2017 SEAL

IN WITNESS WHEREOF, WBRA has caused this Restrictive Covenant, MDEQ Reference Number: RC-RRD-201-17-006, to be executed on this 7th day of August, 2017.

CITY OF WYOMING BROWNFIELD REDEVELOPMENT AUTHORITY

By: _____
Tom Brann, Chairperson

By: _____
Megan Sall, Secretary

****

STATE OF MICHIGAN _____)
) ss.
COUNTY OF KENT _____)

The foregoing instrument was acknowledged before me this 7th day of August, 2017, by Tom Brann and Megan Sall, the Chairperson and Secretary, respectively of the Board of Directors of City of Wyoming Brownfield Redevelopment Authority, on behalf of said authority.

Notary Public: _____

My commission expires: May 18, 2018

JENNIFER R. STOWELL
NOTARY PUBLIC - STATE OF MICHIGAN
OTTAWA COUNTY
MAY 18, 2018

This document is exempt from state and county transfer taxes pursuant MCL 207.505(a) and MCL 207.526(a).

Prepared by ~~and return to:~~
Carl Garvey, General Counsel
RACER Trust
500 Woodward Avenue, Suite 2650
Detroit, MI 48226

When Recorded Return To: R. Cadieux
First American Title Insurance Company
National Commercial Services
900 Wilshire Drive, Suite 260
Troy, MI 48084
File No. NCS-866946

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Lisa Posthumus Lyons P:13/21 3:58PM
Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 1

LEGAL DESCRIPTION AND ILLUSTRATION OF PROPERTY

Land situated in the City of Wyoming, Kent County, Michigan and more particularly described as follows:

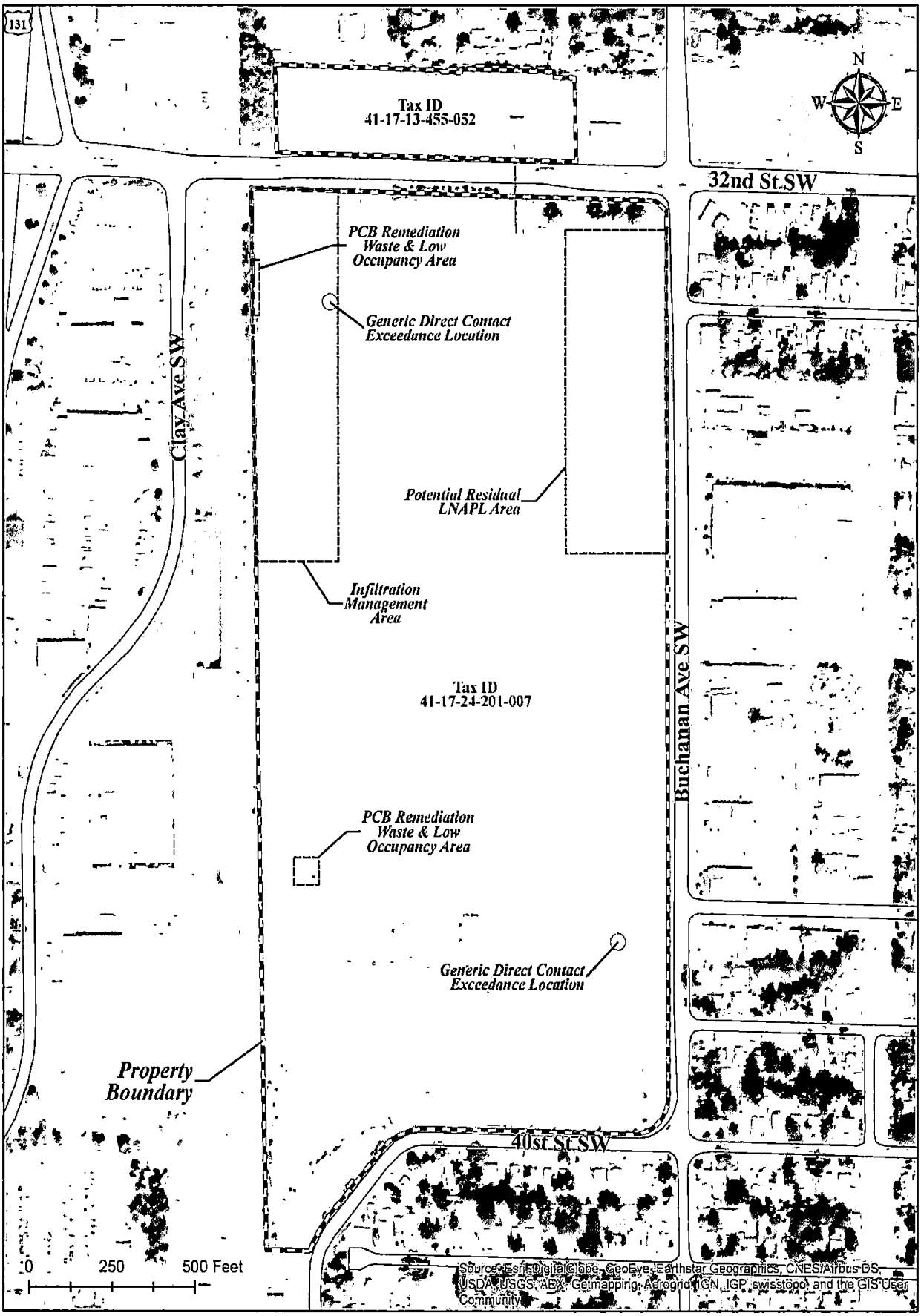
300 36th St SW – Tax identification number - 41-17-24-201-007

78THAT PART OF W 1/2 NE 1/4 LYING E OF E LINE OF CONRAIL RR R/W / 100 FT WIDE/ & LYING S OF SLY LINE OF 36TH ST /100 FT WIDE/ EX COM AT INT OF S LINE OF NE 1/4 & W LINE OF BUCHANAN AVE / 80 FT WIDE/ TH N 87D 59M 30S W ALONG E&W 1/4 LINE 828.27 FT TH N 47D 10M 30S E 46.67 FT TO N LINE OF S 33 FT OF NE 1/4 TH S 87D 49M 30S E 695.3 FT TH NELY 125.8 FT ALONG A 101.8 FT RAD CURVE LT /LONG CHORD BEARS N 56D 46M 24S E 117.95 FT/ TO W LINE OF SD AVE TH SLY 101.4 FT TO BEG * SEC 24 T6N R12W 74.92 A. * ALSO LOTS 147 TO 152 INCL & PART OF LOTS 144 145 146 153 154 & 155 & PART OF VACATED PORTIONS OF FLOYD ST & 40TH ST & DR LYING W OF LOTS 148 & 149 ALL BEING DESC AS - COM AT NW COR OF SD PLAT TH S 87D 49M 30S E ALONG N LINE OF SD PLAT 358.58 FT TO WLY LINE OF RELOCATED STAFFORD AVE /66 FT WIDE/ TH SWLY ALONG WLY LINE OF SD AVE 37.04 FT ALONG A 165.0 FT RAD CURVE LT /LONG CHORD BEARS S 48D 52M 25S W 36.97 FT TH S 42D 26M 30S W ALONG SD WLY LINE 243.88 FT TH SWLY ALONG SD WLY LINE 117.22 FT ALONG A 290.59 FT RAD CURVE LT /LONG CHORD BEARS S 30D 53M 08S W 116.42 FT/ TO A PT 16.51 FT S 0D 02M 30S E & 0.43 FT S 87D 49M 30S E FROM SW COR OF LOT 146 TH N 87D 49M 30S W PAR WITH S LINE OF LOT 148 & SD S LINE EXT 132.43 FT TO W LINE OF SD PLAT TH N 313.78 FT M/L TO BEG * MCQUEEN DOYLE PARK NO.1*

301 36th St SW – Tax identification number - 41-17-13-455-052

411713455052 LOT 883 EX N 9 FT ALSO LOT 884 & 885 ALSO THAT PART OF LOTS 886 TO 891 INCL LYING N OF N LINE OF 36TH ST /100 FT WIDE/ ALSO LOTS 892 & 893 ALSO LOT 894 EX N 9 FT ALSO LOT 922 ALSO THAT PART OF LOT 923 LYING N OF N LINE OF 36TH ST /100 FT WIDE/ ALSO THAT PART OF VACATED PORTION OF HILLCROFT AVE /60 FT WIDE/ DESC AS - COM 249 FT N ALONG E LINE OF SD AVE FROM SW COR OF LOT 891 TH S ALONG SD E LINE TO N LINE OF 36TH ST /100 FT WIDE/ TH W ALONG SD N LINE TO W LINE OF SD VACATED AVE TH N ALONG SD W LINE TO A PT 249 FT N ALONG SD W LINE FROM SE COR OF LOT 923 TH E TO BEG ALSO THAT PART OF VACATED PORTION OF BIRCHWOOD AVE /60 FT WIDE/ DESC AS - COM AT SE COR OF LOT 885 TH N ALONG W LINE OF SD VAC AVE 122 FT TH E TO A PT ON E LINE OF SD VACATED AVE 122 FT N ALONG SD E LINE FROM SW COR OF LOT 842 TH S ALONG E LINE OF SD VACATED ST TO SW COR OF LOT 841 & TO N LINE OF 36TH ST /100 FT WIDE/ TH W ALONG SD N LINE TO W LINE OF SD VACATED ST TH N TO BEG * HOME ACRES NO.2 SPLIT ON 07/02/2009 FROM 41-17-13-455-044, 41-17-13-455-046, 41-17-13-455-048; SPLIT/COMBINED ON 01/08/2013 FROM 41-17-13-455-050, 41-17-13-455-049, 41-17-13-455-051;

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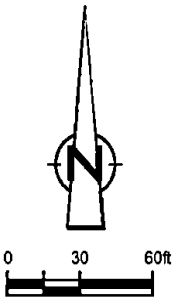


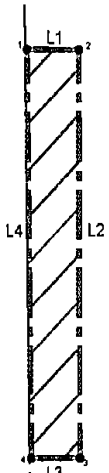
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Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 2

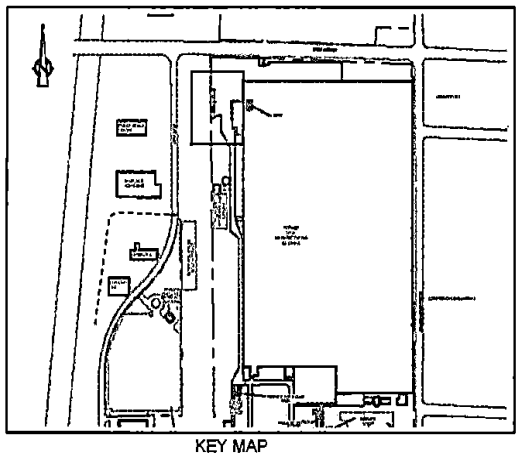
DESCRIPTION AND ILLUSTRATION OF PCB WASTE REMEDIATION AREAS

Exhibit 2.1
PCB REMEDIATION WASTE AREA - No. 1





1	X = 12772774.5, Y = 512197.497
L1	S89°42'45.60"E @21.61'
2	X = 12772796.12, Y = 512197.3886
L2	S0°08'19.74"E @154.95'
3	X = 12772796.49, Y = 512042.4399
L3	N90°00'00.60"W @20.16'
4	X = 12772776.33, Y = 512042.4399
L4	N0°40'32.82"W @155.07'



KEY MAP

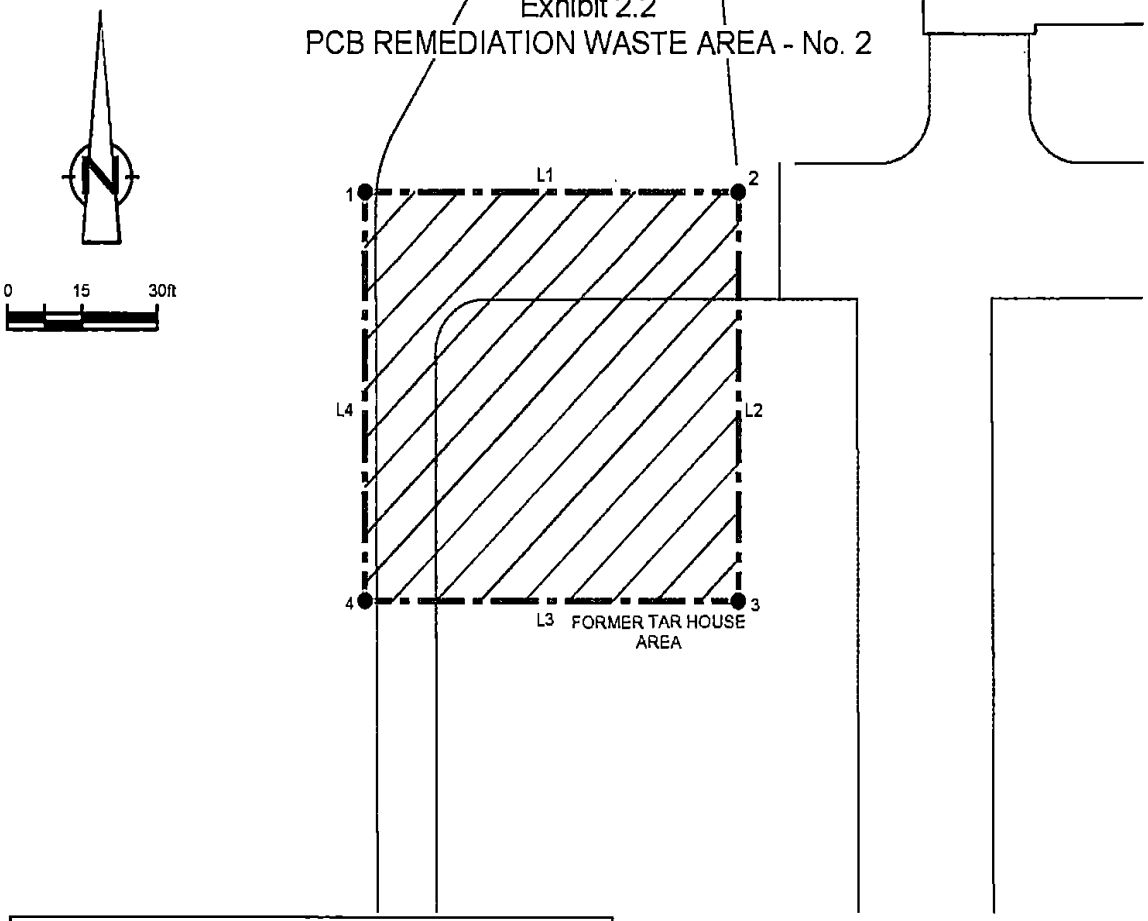
LEGEND

APPROXIMATE PROPERTY BOUNDARY

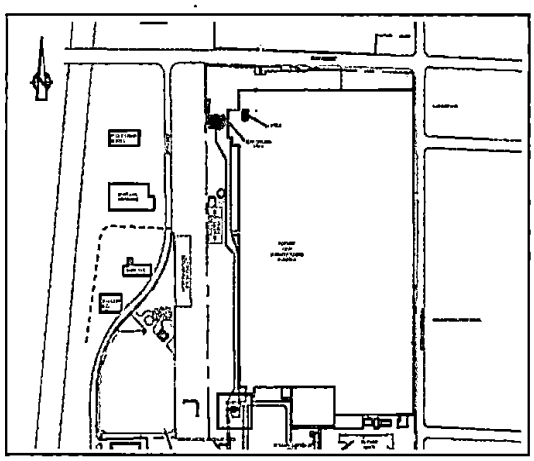
LOW OCCUPANCY AREA AS DEFINED IN 40 CFR 761.61

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Exhibit 2.2
PCB REMEDIATION WASTE AREA - No. 2



1	X = 12772905.4592, Y = 510552.5195
L1	N90°00'00.00"E @75.03'
2	X = 12772980.4835, Y = 510552.5185
L2	S0°00'00.00"E @75.10'
3	X = 12772980.4935, Y = 510477.4171
L3	N90°00'00.00"W @75.03'
4	X = 12772905.4592, Y = 510477.4171
L4	N0°00'00.00"E @75.10'



KEY MAP

LEGEND

APPROXIMATE PROPERTY BOUNDARY

LOW OCCUPANCY AREA AS DEFINED IN 40 CFR 761.61

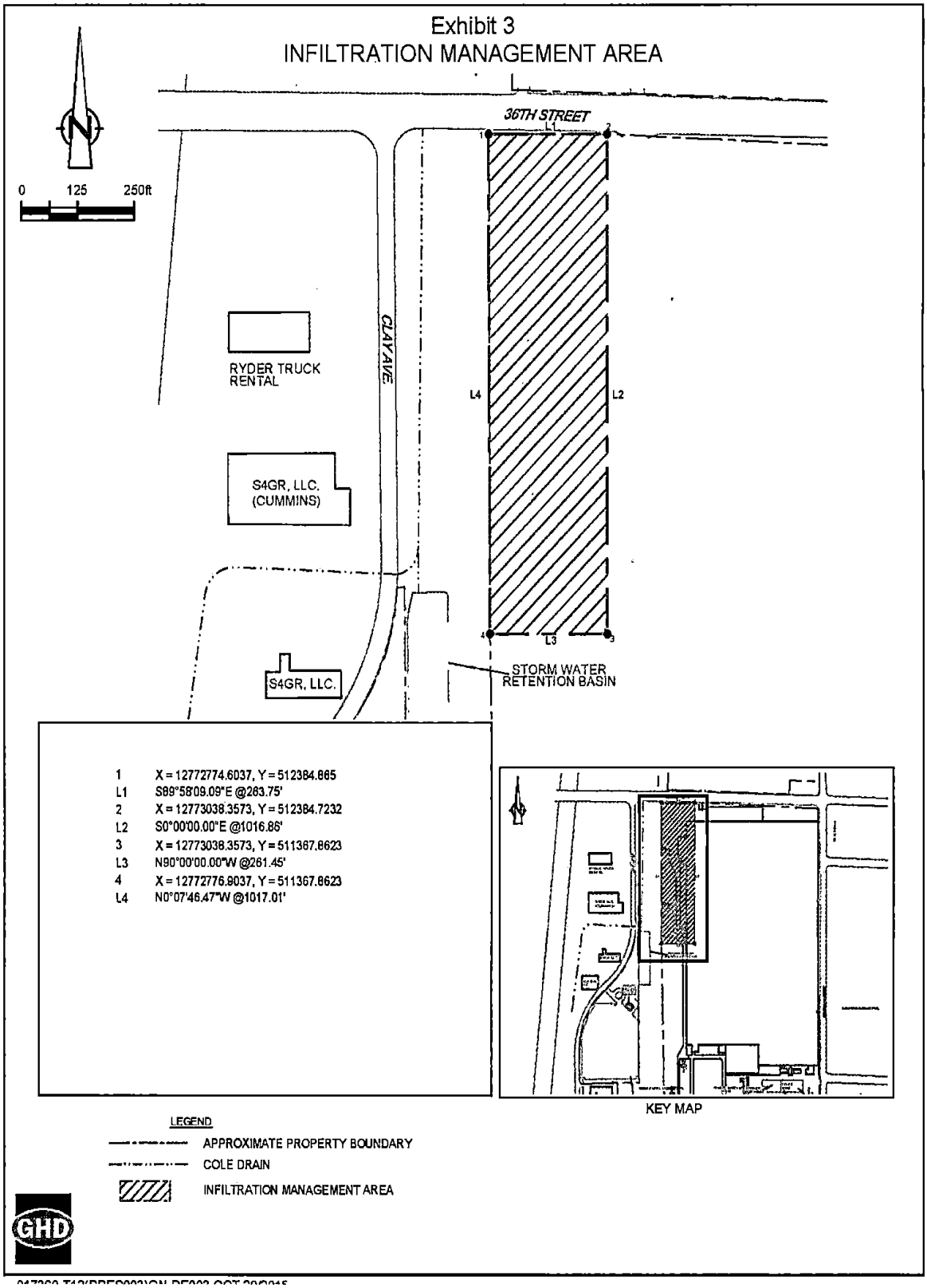
GHD

017360-T12/PRFS003\GN-DF002 OCT 29/2015

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Lisa Posthumus Lyons P:17/21 3:58PM
Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 3

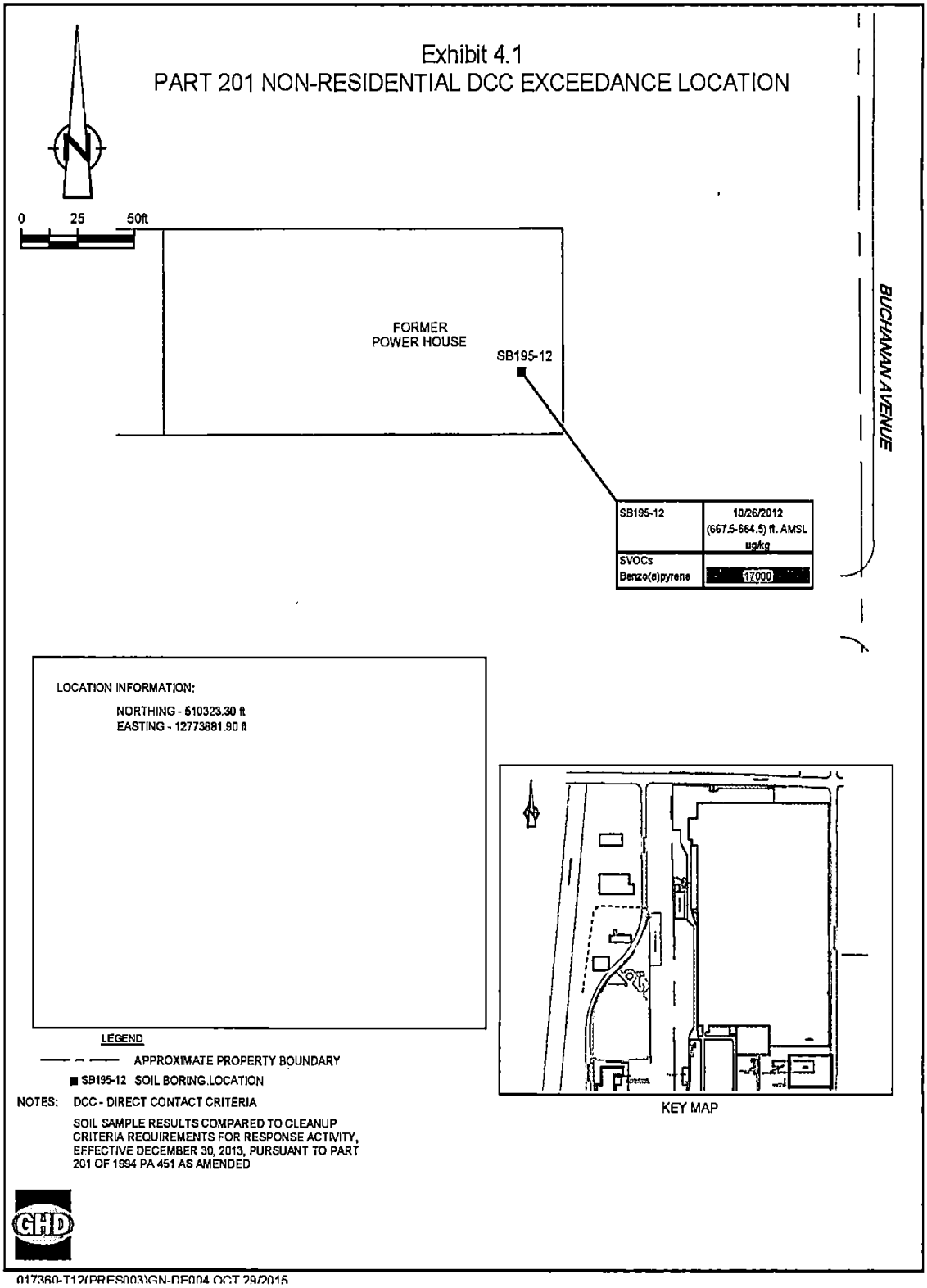
DESCRIPTION AND ILLUSTRATION OF INFILTRATION MANAGEMENT AREA



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Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 4

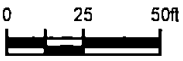
SOIL SAMPLE LOCATIONS WITH CONCENTRATIONS THAT EXCEED THE PART 201 NONRESIDENTIAL SOIL DIRECT CONTACT AND/OR PARTICULATE SOIL INHALATION CLEANUP CRITERIA



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Kent Cnty MI Rgstr 08/31/2017 SEAL

Exhibit 4.2
PART 201 NON-RESIDENTIAL DCC AND PSIC EXCEEDANCE LOCATION



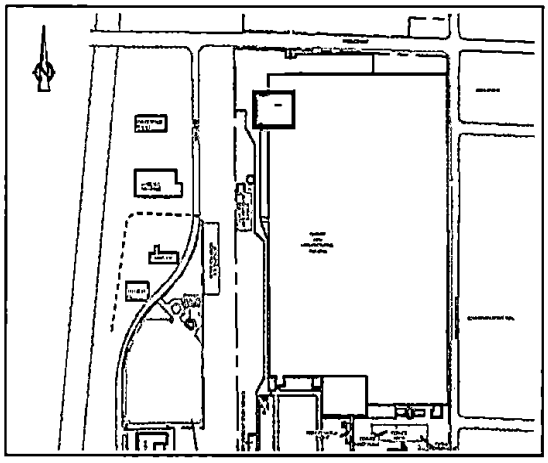


■ SB297-13

SB297-13	10/23/2013 (668.38-666.38) ft. AMSL ug/kg
Metals	
Chromium	2700000/2000000
Lead	2300000 J/540000 J
Manganese	6200000/3600000

LOCATION INFORMATION:

NORTHING - 512080.87 ft
EASTING - 12773014.24 ft



KEY MAP

LEGEND

■ SB297-13 SOIL BORING LOCATION

NOTES: DCC - DIRECT CONTACT CRITERIA
PSIC - PARTICULATE SOIL INHALATION CRITERIA

SOIL SAMPLE RESULTS COMPARED TO CLEANUP CRITERIA REQUIREMENTS FOR RESPONSE ACTIVITY, EFFECTIVE DECEMBER 30, 2013, PURSUANT TO PART 201 OF 1994 PA 451 AS AMENDED

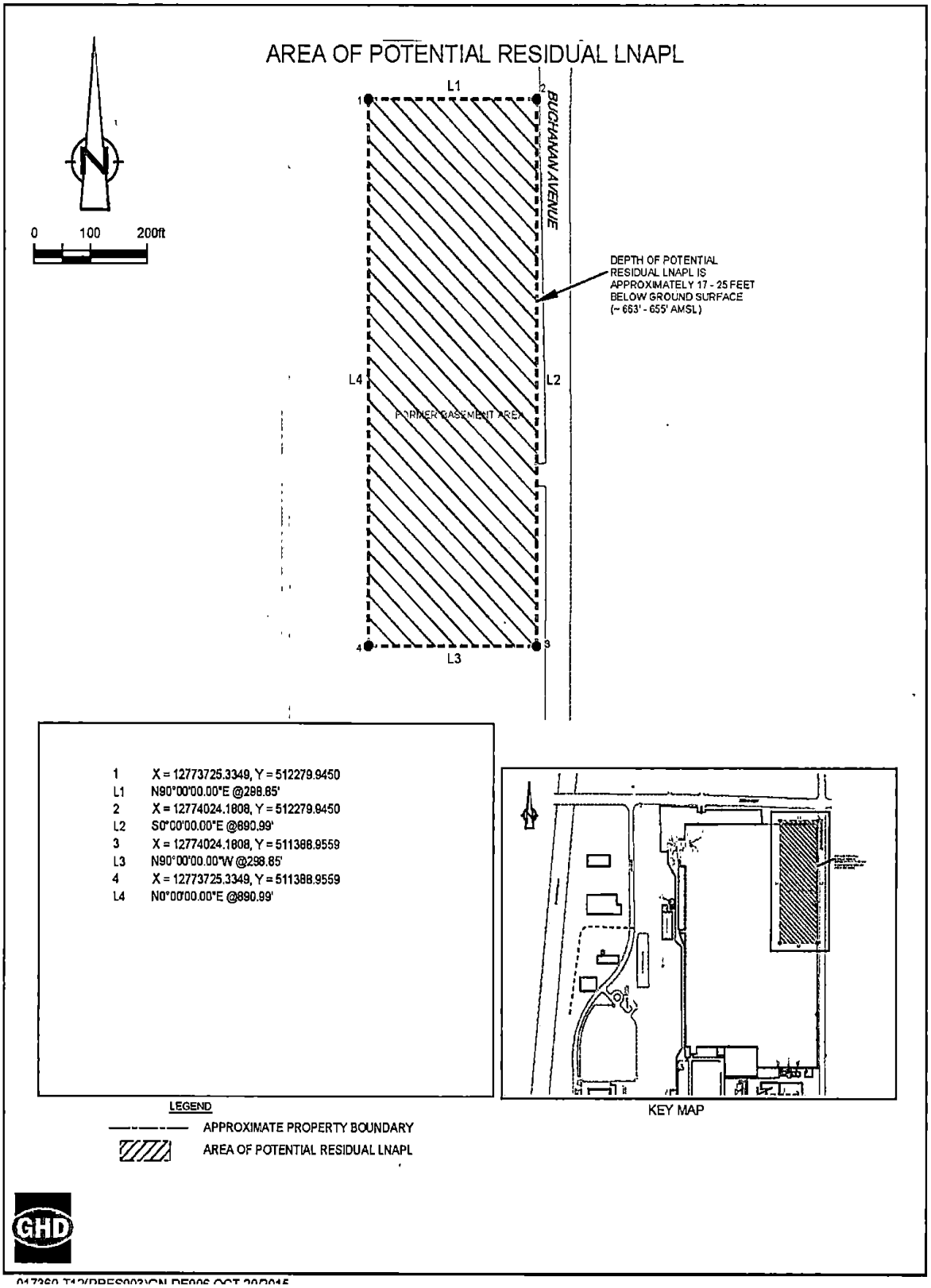
GHD

017360-T12(PRES003)GN-DE005 OCT 29/2015

20170831-0073657
Lisa Posthumus Lyons P:20/21 3:58PM
Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 5

POTENTIAL RESIDUAL LNAPL



20170831-0073657
Lisa Posthumus Lyons P:21/21 3:58PM
Kent Cnty MI Rgstr 08/31/2017 SEAL

EXHIBIT 6

DESCRIPTION OF ALLOWABLE USES

Nonresidential Land Use: This land use is characterized by any use which is not residential in nature and is primarily characterized by industrial and commercial uses. Industrial uses typically involve manufacturing operations engaged in processing and manufacturing of materials or products. Other examples of industrial uses are utility companies, industrial research and development, and petroleum bulk storage. Commercial uses include any business or income-producing use such as commercial warehouses, lumber yards, retail gas stations, auto dealerships and service stations, as well as office buildings, banks, and medical/dental offices (not including hospitals). Commercial uses also include retail businesses whose principal activity is the sale of food or merchandise within an enclosed building and personal service establishments which perform services indoors such as health clubs, barber/beauty salons, photographic studios, etc.

Any residential use is specifically prohibited from the non-residential land use category. This would include the primary use of the property for human habitation and includes structures such as single family dwellings, multiple family structures, mobile homes, condominiums, and apartment buildings. Residential use is also characterized by any use which is intended to house, educate, or provide care for children, the elderly, the infirm, or other sensitive populations, and therefore could include day care centers, educational facilities, hospitals, elder care facilities, and nursing homes. The use of any accessory building or portion of an existing building as a dwelling unit permitted for a proprietor or storekeeper and their families, located in the same building as their place of occupation, or for a watchman or caretaker is also prohibited. Any authority that allows for residential use of the Property as a legal non-conforming use is also restricted per the prohibitions contained in this restrictive covenant.

Low Occupancy Area: As defined in 40 CFR 761.3, low occupancy area means any area where PCB Remediation Waste has been disposed of on-site and where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is: less than 840 hours (an average of 16.8 hours per week) for non-porous surfaces and less than 335 hours (an average of 6.7 hours per week) for bulk PCB Remediation Waste. Examples could include an electrical substation or a location in an industrial facility where a worker spends small amounts of time per week (such as an unoccupied area outside a building, an electrical equipment vault, or in the non-office space in a warehouse where occupancy is transitory).

GRAPIDS 57721-12 456931v1

Appendix B
LNAPL Conceptual Site Model Memorandum

Memorandum

To:	Dave Favero, RACER Trust	Ref. No.:	017360
From:	Matt Rousseau/Jeni Quigley/Earl Batenburg/68/Pwl.	Date:	November 23, 2015

Re: **Summary of LNAPL Evaluation Activities**
Former Grand Rapids Metal Plant
Wyoming, Michigan

GHD Services, Inc. (GHD) on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, conducted a review of information related to the presence of light non-aqueous phase liquid (LNAPL) at the former Grand Rapids Metal Plant property located at 300 36th Street in Wyoming, Michigan (Site). This memorandum (Memorandum) has been prepared to summarize available information and apply the RACER LNAPL management decision-making framework for the evaluation of LNAPL present at the Site. The area that is the focus of this evaluation was identified as Area of Interest (AOI) 6 in the Current Conditions Report (CCR) submitted to the Michigan Department of Environmental Quality (MDEQ) on December 23, 2010.

Site Background

The Site consists of approximately 88 acres located in the City of Wyoming, Michigan. The Site included a 2 million square-foot main manufacturing building, in addition to several outlying buildings and ancillary structures. The Site was originally developed in 1936 by the Fisher Body Division of General Motors and was formerly operated as an automobile metal fabrication and assembly plant until 2010 when operations ceased. Operations included the use of various heavy metal-based materials, oils and solvents. RACER Trust sold the property in 2011 to Thunder Ventures, who subsequently transferred the Site to the City of Wyoming Brownfield Redevelopment Authority (WBRA); however, RACER retains certain responsibilities related to subsurface contamination associated with historical operations at the Site. Investigation and cleanup activities are being performed voluntarily by the RACER Trust.

Decommissioning, demolition and redevelopment activities were completed by MCM Management Corporation (MCM) on the Site on behalf of WBRA in 2011 and 2012. Activities included decommissioning and demolition of all Site structures, with the exception of the Primary Switch House, a storm sewer pump house, and a Consumers Energy Company substation, removal of the former building slabs, and re-grading of the Site. The Site is currently being marketed for future redevelopment.

Summary of LNAPL Investigations and Monitoring

An area in the northeastern portion of the Site was excavated during plant modernization activities in June 1985. The excavation was approximately 20 feet in depth, and was located near Column A-15 of the

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REGISTERED COMPANY FOR ISO 9001 ENGINEERING DESIGN

former main manufacturing building. Soil was removed in particular areas to the water table, where a "distinct layer of hydrocarbons consisting of mineral spirits was discovered (in contact with groundwater)" . The LNAPL was believed to consist of mineral seal oil and/or mineral spirits, which were used in processes in this portion of the former main manufacturing building for approximately 50 years. The primary operations conducted in this portion of the former main manufacturing building included metal stamping utilizing blanking. According to Site records reviewed, a release was reported to the National Response Center and the Michigan Department of Natural Resources (MDNR)(predecessor of the MDEQ) on July 26, 1985.

Subsurface investigation was subsequently undertaken by EDI Engineering and Science (EDI) to determine the extent of LNAPL impacts. A total of seven monitoring wells were installed during the investigation; four of the wells were installed around the excavation, in the northeastern portion of the former main manufacturing building, and three wells were installed outside the former main manufacturing building on the north, northwest, and west sides of the former main manufacturing building. LNAPL was observed in monitoring wells located in the northeastern portion of the former main manufacturing building.

Following the initial investigation, well gauging and groundwater sampling for semi-volatile organic compounds (SVOCs) have been conducted with the following results:

- Exceedances of the Part 201 Generic Residential Cleanup Criteria (GRCC) have been noted over time
- LNAPL exhibiting a weathered hydraulic oil-like odor had been observed on a periodic basis in monitoring wells 85-5B and 85-3

A Groundwater Investigation Work Plan was submitted to the Michigan Department of Natural Resources and Environment (MDNRE) in 2008 that included the abandonment of monitoring well 85-3 and installation of a new monitoring well adjacent to 85-3. The original construction of monitoring well 85-3 was not suitable for LNAPL monitoring since the recorded static water level in the well was consistently above the top of the monitoring well screen. The Work Plan was implemented in April 2010, with monitoring well 85-3 abandoned and a new monitoring well, MW18-10, installed adjacent to the former well. No LNAPL was identified in MW18-10 during October 2010 groundwater monitoring activities.

During basement foundation demolition activities in May 2012, MCM discovered LNAPL in a location outside of the AOI 6 boundary. MCM was attempting to remove all sheet pile walls that extended below the groundwater table when groundwater started to infiltrate the excavation and sheen was observed on the surface of the water. GHD noted a solvent-like odor while conducting a visual observation of the area.

Two soil samples were collected by the WBRA's consultant, Soils & Materials Engineers, Inc. (SME), to assess worker exposure during demolition. Sample "AREA 9.1" was an unsaturated soil sample collected immediately above the water table (estimated to be approximately 18-20 feet below the former plant floor) near former building column A, row 20 (A20). Sample "AREA 9.2" was a saturated soil sample collected near former building column/row A24 and estimated to be approximately 20 to 22 feet below the former plant floor. Both soil samples exhibited a solvent like odor. Results of the sample analyses indicated the following:

The unsaturated soil sample exhibited the following Part 201 Criteria exceedances:

- Groundwater-Surface Water Interface Protection Criteria (GSIPC) – xylenes, phenanthrene
- Drinking Water Protection Criteria (DWPC) – n-propylbenzene, n-butylbenzene, sec-butylbenzene
- DWPC and GSIPC – 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene

The saturated soil sample exceeded the GSIPC for 1,2,4-trimethylbenzene. The unsaturated sample was collected from the smear zone, as the water table elevation varies by up to 3 feet in this area seasonally. The analytical laboratory report for the aforementioned soil samples was provided by SME and is included in Attachment A.

Demolition activities included the removal of basement foundation walls and associated sheet piling to only four feet below the final proposed grade. The basement floors in the northern former plant area near AOI 6 were not cracked during demolition to eliminate groundwater infiltration upward into the area. The presence of the basement foundation walls, sheet piling, and basement floor in the former northern plant area reduces the volume of groundwater flow through the area of potential residual LNAPL. However, the southern former plant basement area floors were cracked prior to backfilling. The approximate location of the remaining basement foundation sheet pile walls are identified on Figure 1. The approximate location of the area containing potential residual LNAPL is identified on Figure 2.

Demolition activities concluded in September 2012 and, as a result, all monitoring wells in this area were destroyed. Three monitoring wells, MW44-12 (replaces 85-5B), MW45-12 (replaces MW18-10) and MW50-12 were installed in 2012 to replace the wells destroyed during demolition activities. Additional locations installed in 2012 outside the AOI 6 boundary include the following: MW46-12 (replaces 86-1); MW51-12; and MW52-12. Current monitoring activities in AOI 6 consist of semi-annual groundwater monitoring including sampling for SVOCs in select wells and well gauging. Measureable in-well LNAPL thicknesses have not been noted in any wells since 2007; however, trace LNAPL (sheen) has been noted periodically in MW44-12, MW45-12, MW50-12, MW51-12, and MW52-12. Table 1 presents a summary of the historical in-well LNAPL thickness measurements for AOI 6. The monitoring well locations and area of observed LNAPL during demolition are shown on Figure 1. Table 2 presents a summary of groundwater sample analytical results for samples collected in the monitoring wells associated with AOI 6 and the nearby observed LNAPL.

LNAPL Evaluation

The MDEQ's NAPL Characterization, Remediation, and Management for Petroleum Releases resource document (MDEQ NAPL Resource Document) and the LNAPL remedial/management decision-making process developed by the RACER Trust (in partnership with MDEQ) are based upon the development of a technically sound LNAPL Conceptual Site Model (LCSM) that contains the appropriate amount and kinds of data necessary to evaluate potential remedial drivers and remedial/management strategies. A detailed LNAPL evaluation was completed for the AOI 6 LNAPL area consistent with the MDEQ's NAPL Resource Document (provided in Attachment B) and RACER's LNAPL remedial/management process (or 'Decision Tree' – provided Attachment C). Generally, the MDEQ NAPL Resource Document and Decision Tree assist with identifying acceptable remedial actions based on site-specific conditions.

LNAPL Conceptual Site Model

The LCSM is the body of information describing aspects of the LNAPL and site setting necessary to satisfy the LNAPL remedial/management objectives (ASTM, 2007; ITRC, 2009). An LCSM includes both "scientific" information regarding the LNAPL, soil and site conditions/setting, and "other" considerations and factors that are necessary to establish the true remedial drivers (risk-based or non-risk factors) for the area in question. The remedial drivers, in turn, are used to establish the overall LNAPL remedial/management objectives, and follow-up technology-specific goals, metrics and endpoints, where applicable.

The LCSM may be comprised of some or all of the following scientific and technological information:

- Release history
- Remedial history
- Land use (historical and current)
- Geological and hydrogeological information/setting
- LNAPL physical (density, viscosity, interfacial tensions) and chemical properties (fingerprinting, constituents, mole fractions, etc.) characteristics
- LNAPL spatial distribution (vertical and horizontal delineation)
- Potential exposure scenarios
- LNAPL mobility/recoverability information
- LNAPL stability information

The more pertinent elements of the LCSM for AOI 6 are summarized below:

Release History

The LNAPL in AOI 6 is believed to be the result of undocumented releases of hydraulic oil and mineral seal oil and/or mineral spirits over time, which were used in processes in this portion of the plant for approximately 50 years prior to discovery during excavation activities in 1985. There have been additional observations of LNAPL in the vicinity of the LNAPL area consisting of hydraulic oil; however, the occurrence of observations of hydraulic oil during well gauging have been limited to monitoring well locations MW18-10 (formerly 85-3) and 85-5B. Consequently, the most likely scenario is that the head of the release that might have driven migration has long since dissipated. Well gauging data confirm the lack of any significant LNAPL head (i.e., no measurable amount of LNAPL is present to indicate the potential for migration).

Remedial History

A significant portion of the LNAPL impacts would have been removed during plant modernization activities in 1985 that involved excavation in the area to the water table (approximately 20' in depth). In the past, GHD tried to conduct a drawdown test to accumulate sufficient volume of LNAPL from the well where it was observed on a more regular basis (85-3), but insufficient volume was present for sample collection and "fingerprinting." Subsequent to the drawdown test, a passive skimmer was placed in 85-3 and it was again unable to collect a sufficient volume of LNAPL.

Following demolition of the plant in 2012, additional monitoring wells were installed to replace destroyed wells. Continued monitoring of these wells does not indicate the presence of measurable product; however, a sheen has been observed in two of the replacement wells (within AOI 6) as well as 2 additional locations which were not previously included in LNAPL monitoring activities. Prior to the installation of the monitoring wells in 2012, no product had been observed since 2007.

Land Use

The AOI 6 LNAPL area is within the confines of a former heavy industrial site with any future land use restricted to non-residential. The City of Wyoming provides potable water to the Site and surrounding areas from the City of Wyoming Drinking Water Plant located in Wyoming, Michigan. The water source for the City of Wyoming Drinking Water Plant is Lake Michigan. As such, the shallow groundwater at the Site is not used as a potable water supply and there are no known users of shallow groundwater in the vicinity of the Site.

LNAPL Properties

The LNAPL consists of mineral seal oil and/or mineral spirits, as well as hydraulic oil, according to Site historical data. The volatility of the LNAPL is expected to be low currently given the significant weathering/degradation that would have taken place during the 28+ years it has been in the ground. The recent boring logs (provided in Attachment D) seem to confirm the low volatility of the LNAPL based on the infrequent/low level PID readings noted during installation of the most recent wells. Dissolution and volatilization of LNAPL constituents would therefore be expected to be limited.

LNAPL Spatial Distribution

The extent of the LNAPL area has been delineated via monitoring wells. Potentially mobile LNAPL (i.e., LNAPL in wells) has been noted historically in wells MW46-12/86-1, MW45-12/MW18-10/85-3, 85-6, MW44-12/85-5B, MW51-12 and MW52-12. No measurable LNAPL thickness has been observed at any of the monitoring locations since 2007. The current extent of potentially mobile LNAPL (based on current wells where sheen has been observed) is at least 200 feet from the nearest property line. The boring logs indicate the extent of LNAPL is approximately 17-25 feet below ground surface (bgs).

LNAPL Mobility and Recoverability

The 1985 excavation activities likely removed the bulk of the potentially mobile/recoverable LNAPL. Nonetheless, the current presence of LNAPL in wells indicates a theoretical presence of mobile LNAPL. However, the fact that the only observations of LNAPL since 2007 have been sheens (as opposed to more significant measureable accumulations) indicates a de minimis mobility condition. The fraction of the overall LNAPL area represented by the observed sheens that might be mobile will be negligible. Given the de minimis mobility condition and the fact that a sheen does not constitute sufficient LNAPL to evaluate recoverability (via estimation of LNAPL transmissivity), it is also concluded that the recoverability of the LNAPL is de minimis.

LNAPL Area Stability

In general, the driving mechanism for LNAPL migration is the LNAPL head that exists during and shortly after a release. It is commonly believed that the hydraulic gradient "causes" LNAPL to spread. However, the reality in most cases is that the hydraulic gradient will not cause LNAPL spreading; rather, it will only influence the preferred direction of spreading where a sufficient LNAPL head exists to drive the migration. Experience has shown that the LNAPL head will dissipate relatively quickly following the cessation of a release, with most LNAPL bodies achieving overall stability (stable perimeter/footprint) within a few years. Localized areas of mobile/recoverable LNAPL may still exist within the LNAPL area at this point; however, the overall footprint of the LNAPL area will not expand further.

The older the LNAPL area, the more likely it will be stable. This is partly due to the dissipation of the LNAPL head, and partly due to the seasonal fluctuations in the water table that will "smear" the LNAPL or spread the now fixed volume of LNAPL over larger vertical extents over time. Smearing causes a progressive decrease in localized LNAPL saturations and, consequently, the mobility potential of the LNAPL. Based solely on the time since there was any possibility of an active release (at least 28 years), the LNAPL would be expected to be stable overall (i.e., not migrating). The well gauging history that indicates no measureable levels of LNAPL in wells since 2007 and the associated conclusion that the LNAPL is effectively immobile everywhere within the LNAPL area confirm the overall stability of the LNAPL area.

Potential Exposure Scenarios

The available historical groundwater analytical data are summarized and compared against the generic Part 201 Criteria in Table 2. These results indicate that exceedances of generic criteria were noted historically for volatile organic compounds (VOCs) and SVOCs for the groundwater/surface water interface (GSI) and drinking water pathways. However, these are not considered relevant pathways for the following reasons:

- Drinking Water Pathway: This pathway is not relevant based on the following points:
    - Groundwater is not used as a source of drinking water for the City of Wyoming
    - A restrictive covenant is in place for the Site which restricts the use of groundwater beneath the Site for any purpose
- GSI Pathway: This pathway is not relevant based on the following points:
    - The AOI 6 LNAPL area will not directly impact the nearest surface water bodies since it is stable and is a significant distance from the Cole Drain and Plaster Creek
    - All subsurface utilities in the area of AOI 6 were destroyed or plugged as part of demolition activities, eliminating any potential conduit for LNAPL or impacted groundwater to surface water

Considering these points and the preceding LCSM discussion, the GSI and drinking water pathways are not currently relevant pathways nor will they become relevant in the future. It is also noted that groundwater quality would only be expected to improve over time due to the lack of new releases and the fact that natural source zone depletion processes (NSZD) will act on the LNAPL such that it will only become progressively less soluble over time.

As previously noted, the LNAPL would not be expected to present soil gas concerns. This is perhaps best-evidenced by boring logs for the area that do not exhibit elevated photoionization detector (PID) readings where LNAPL is observed in the soil. Similar to dissolution potential, NSZD processes will also progressively reduce the volatility of the LNAPL over time. In addition, any concerns relating to vapor intrusion are effectively mitigated by the Site restrictive covenant, which requires the use of vapor intrusion barriers in any future construction.

Direct contact is not currently a relevant pathway due to the depth of impacts (approximately 17-25 feet bgs based on boring logs). This is consistent with the excavation of this area which was completed to 20 feet bgs. It is also unlikely that any future site redevelopment will require excavation to that depth. As with the other potential exposure scenarios described herein, any potential future direct contact issues are addressed through the Site restrictive covenant.

Evaluation of Potential Remedial Drivers

Similar to ITRC, MDEQ considers two types of risks with respect to the presence of LNAPL: compositional risk and saturation-based risk. Compositional risks represent the 'traditional' risk concerns associated with groundwater, direct contact or soil gas-related exposures. Compositional risks therefore represent concerns where a change in LNAPL chemistry may be advantageous to limit dissolution, volatilization, etc. of petroleum constituents. Examples of compositional change techniques include enhanced biodegradation, in-situ chemical oxidation and air sparging. Saturation-based risk primarily relates to the potential for LNAPL migration into areas not already impacted where the reduction of LNAPL saturations may be warranted. Saturation-based remedial techniques are therefore based on the mass recovery of LNAPL.

As indicated above, the typical compositional risks associated with the presence of LNAPL would be unacceptable levels of dissolved phase contamination, potential for direct contact, or soil vapor concerns. As noted in the LCSM discussion, there is no current or anticipated future risk with respect to dissolved and/or vapor phase impacts or direct contact pathways and any potential future risk is mitigated through the restrictive covenant. It is noted that the restrictive covenant also represents a more sustainable approach to LNAPL management since it does not involve the resource usage, emissions (direct or indirect) or remediation risk that are typically generated with engineered remedies.

As previously discussed, all indications are that the LNAPL is stable/non-migrating and immobile from a practical standpoint. Therefore, there is no saturation-based risk.

The pathway through the draft RACER LNAPL decision-making framework resulting from the preceding discussion is illustrated in Attachment E along with the associated decision-making rationale for each decision point.

LCSM Summary

In summary, the following list represents the most pertinent points of the LCSM:

- The LNAPL is a mineral seal oil/mineral spirits fuel type
- The LNAPL is effectively immobile, unrecoverable and stable/non-migrating overall
- There are no current unacceptable exposure scenarios associated with the LNAPL in place
    - No applicable compositional remedial drivers
- The Site restrictive covenant will effectively mitigate any potential future exposures (Attachment F)

Recommendations

Based on the assessment presented herein, no current or future compositional or saturation-based risks associated with the LNAPL at AOI 6 are expected. Consequently, no further evaluation activities are anticipated to be required.

List of Figures

Figure 1	Monitoring Well Locations
Figure 2	Area of Potential Residual LNAPL

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Table 1	Historical In-Well LNAPL Thickness Measurements
Table 2	Groundwater Sample Analytical Results

List of Attachments

Attachment A	SME's Soil Sample Analytical Laboratory Report
Attachment B	MDEQ NAPL Characterization, Remediation, and Management for Petroleum Releases Resource Document
Attachment C	RACER LNAPL Remedial/Management Decision-Making Process
Attachment D	Stratigraphic Boring/Monitoring Well Construction Logs
Attachment E	RACER LNAPL Decision Tree Analysis
Attachment F	Declaration of Restrictive Covenant

0 30 60ft

BUCHANAN STREET

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

AA

A

B

C

D

E

85-6

MW2-03

MW52-12

MW45-12

MW18-10

85-3

AOI 6

85-4

MW50-12

MW51-12

85-5B

MW44-12

85-5A

86-1

MW46-12

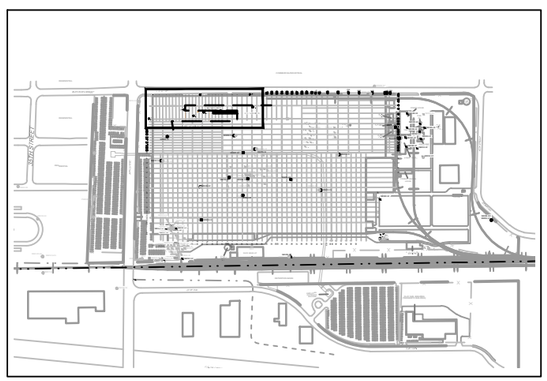
FORMER BASEMENT AREA

FORMER BASEMENT AREA

FORMER BASEMENT AREA

LEGEND

- APPROXIMATE AOI 6 BOUNDARY
- MW50-12 MONITORING WELL LOCATION
- 85-5A REMOVED MONITORING WELL LOCATION
- MW18-10 DESTROYED MONITORING WELL LOCATION
- APPROXIMATE FORMER BASEMENT BOUNDARY AND ASSOCIATED SHEET PILING
- AREA OF OBSERVED LNAPL DURING 2012 DEMOLITION ACTIVITIES



KEY MAP

figure 1

MONITORING WELL LOCATIONS - AOI 6
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

017360-T12(MEMO068)GN-DE001 NOV 23/2015

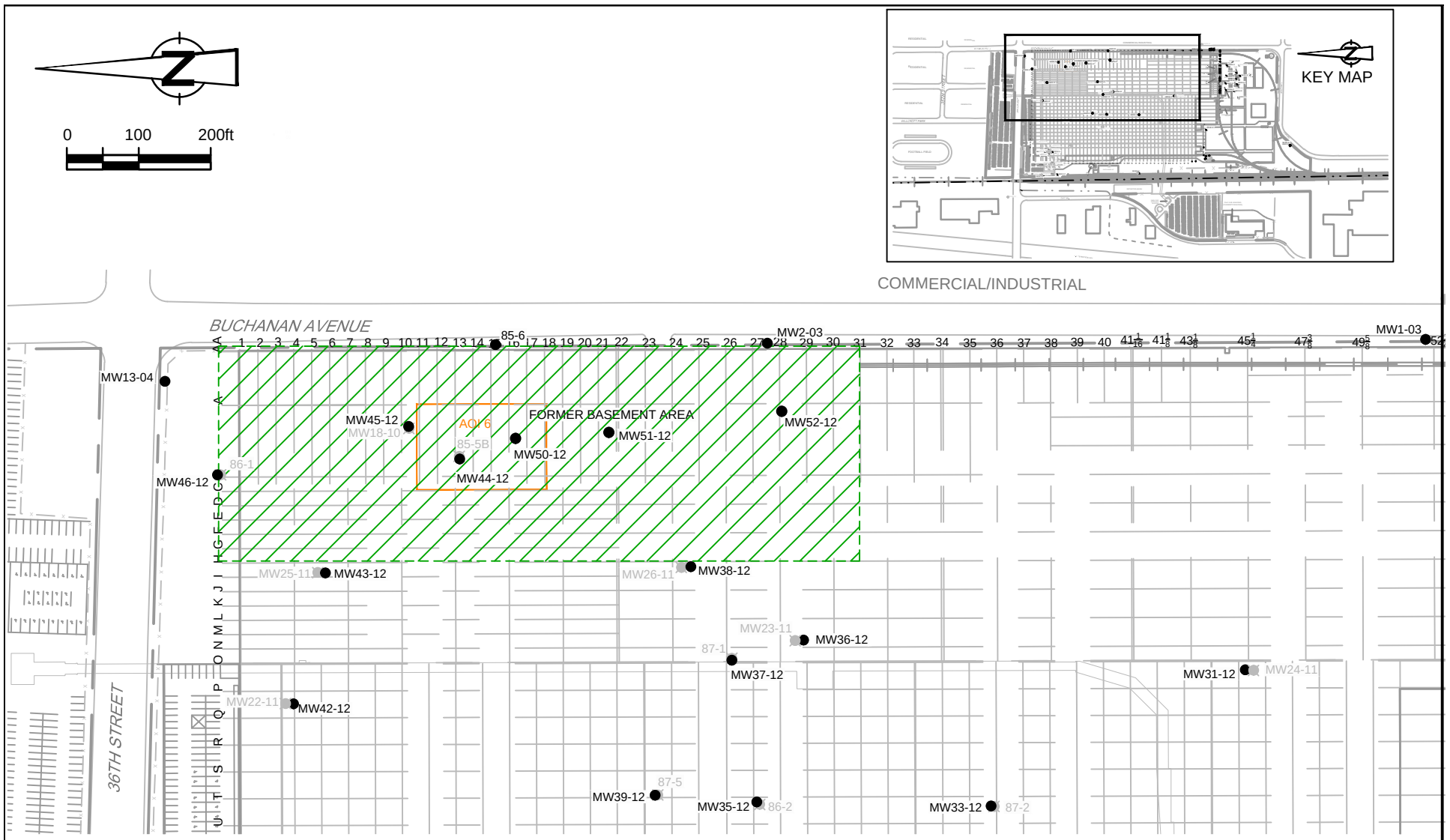


figure 2

AREA OF POTENTIAL RESIDUAL LNAPL
AOI 6: NAPL AND SVOC IMPACTED GROUNDWATER
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

017360-T12(MEMO068)GN-DE002 APR 4, 2016

Table 1

Historical In-Well LNAPL Thickness Measurements
LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Date	MW45-12 (MW18-10 (85-3[3]))[2]	MW44-12 (85-5B)[2]	85-6	MW46-12 (86-1)[2]	MW50-12	MW51-12	MW52-12
12/21/88	0.02	none	none	--	--	--	--
01/18/89	--	--	--	--	--	--	--
02/17/89	0.02	none	none	none	--	--	--
03/16/89	trace (sheen)	none	none	none	--	--	--
04/20/89	0.01	sheen	none	none	--	--	--
05/18/89	0.01	none	none	none	--	--	--
06/16/89	trace (sheen)	none	none	none	--	--	--
07/18/89	0.01	none	none	none	--	--	--
08/22/89	0.01	none	none	none	--	--	--
09/22/89	0.01	none	trace (sheen)	none	--	--	--
10/13/89	0.01	none	none	none	--	--	--
10/20/89	--	--	--	--	--	--	--
11/17/89	0.03	none	none	none	--	--	--
12/21/89	0.4	none	none	none	--	--	--
01/12/90	2.75	--	none	none	--	--	--
01/19/90	0.25	none	none	none	--	--	--
02/16/90	0.02	none	none	none	--	--	--
03/16/90	0.02	none	none	none	--	--	--
04/12/90	0.01	none	none	none	--	--	--
05/18/90	0.01	none	none	none	--	--	--
06/19/90	none	none	none	none	--	--	--
07/13/90	trace (sheen)	none	none	none	--	--	--
08/20/90	none	--	none	none	--	--	--
09/14/90	trace (sheen)	--	none	none	--	--	--
10/12/90	trace (sheen)	--	none	none	--	--	--
11/15/90	trace (sheen)	none	none	none	--	--	--
12/18/90	trace (sheen)	--	none	none	--	--	--
01/15/91	none	--	--	--	--	--	--
02/20/91	none	--	--	--	--	--	--
03/11/91	none	--	none	none	--	--	--
04/18/91	none	--	--	--	--	--	--
05/16/91	none	--	--	--	--	--	--
06/13/91	trace (sheen)	--	none	none	--	--	--
07/19/91	trace (sheen)	--	--	--	--	--	--
08/19/91	0.01	--	--	--	--	--	--
09/12/91	0.46	--	none	none	--	--	--
10/16/91	0.3	--	--	--	--	--	--
11/15/91	0.19	none	none	none	--	--	--
12/13/91	0.16	none	none	none	--	--	--
01/17/92	0.06	--	--	--	--	--	--
02/14/92	0.47	--	--	--	--	--	--
03/13/92	0.22	--	none	none	--	--	--
04/21/92	0.14	--	--	--	--	--	--
05/15/92	0.14	--	--	--	--	--	--
06/12/92	0.09	--	none	none	--	--	--
07/17/92	0.15	--	--	--	--	--	--
08/13/92	0.16	--	--	--	--	--	--
09/11/92	0.26	--	none	none	--	--	--
10/16/92	0.46	--	--	--	--	--	--
11/12/92	0.34	--	--	--	--	--	--
12/10/92	0.15	none	none	none	--	--	--
01/15/93	0.04	--	--	--	--	--	--
02/12/93	0.08	--	--	--	--	--	--
03/11/93	0.14	--	none	none	--	--	--
04/15/93	0.15	--	--	--	--	--	--
05/13/93	0.06	--	--	--	--	--	--
06/14/93	0.12	--	none	none	--	--	--
07/16/93	0.04	--	--	--	--	--	--
08/11/93	0.03	--	--	--	--	--	--
09/15/93	0.17	--	none	none	--	--	--
10/19/93	0.05	--	--	--	--	--	--
11/17/93	0.04	--	--	--	--	--	--
12/17/93	0.37	none	none	none	--	--	--
01/13/94	0.47	--	--	--	--	--	--
02/15/94	0.89	--	--	--	--	--	--
03/16/94	0.19	--	none	none	--	--	--
04/13/94	0.01	--	--	--	--	--	--
05/12/94	0.11	--	--	--	--	--	--
06/14/94	0.16	--	none	none	--	--	--
07/13/94	0.04	--	--	--	--	--	--
08/12/94	0.02	--	--	--	--	--	--
09/14/94	0.07	--	none	none	--	--	--

Table 1

Historical In-Well LNAPL Thickness Measurements
LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Date	MW45-12 (MW18-10 (85-3[3]))[2]	MW44-12 (85-5B)[2]	85-6	MW46-12 (86-1)[2]	MW50-12	MW51-12	MW52-12
10/18/94	0.09	--	--	--	--	--	--
11/11/94	none	--	--	--	--	--	--
12/16/94	0.09	none	none	none	--	--	--
01/13/95	0.26	--	--	--	--	--	--
02/14/95	0.02	--	--	--	--	--	--
03/17/95	0.14	--	none	none	--	--	--
04/13/95	0.21	--	--	--	--	--	--
05/15/95	none	--	--	--	--	--	--
06/20/95	none	--	none	none	--	--	--
07/13/95	none	--	--	--	--	--	--
08/11/95	0.14	--	--	--	--	--	--
09/14/95	0.23	--	none	none	--	--	--
10/17/95	0.59	--	--	--	--	--	--
11/17/95	0.08	--	--	--	--	--	--
12/18/95	none	none	none	none	--	--	--
01/06/96	0.33	--	--	--	--	--	--
02/19/96	0.72	--	--	--	--	--	--
03/19/96	0.89	--	none	none	--	--	--
04/12/96	0.72	--	--	--	--	--	--
05/16/96	0.01	--	--	--	--	--	--
06/13/96	none	--	none	none	--	--	--
07/16/96	none	--	--	--	--	--	--
08/16/96	0.01	--	--	--	--	--	--
09/13/96	none	--	none	none	--	--	--
10/17/96	0.19	--	--	--	--	--	--
11/19/96	0.30	--	--	--	--	--	--
12/12/96	0.68	0.01	none	none	--	--	--
01/20/97	0.39	--	--	--	--	--	--
02/14/97	none	--	--	--	--	--	--
03/13/97	none	--	none	none	--	--	--
04/18/97	none	--	--	--	--	--	--
05/15/97	none	--	--	--	--	--	--
06/19/97	none	--	none	none	--	--	--
07/17/97	none	--	--	--	--	--	--
08/14/97	none	--	--	--	--	--	--
09/11/97	0.05	--	none	none	--	--	--
10/17/97	0.15	--	--	--	--	--	--
11/14/97	0.24	--	--	--	--	--	--
12/16/97	0.93	none	none	none	--	--	--
01/14/98	0.53	--	--	--	--	--	--
02/16/98	0.04	--	--	--	--	--	--
03/12/98	0.02	--	none	none	--	--	--
04/22/98	none	--	--	--	--	--	--
05/20/98	0.38	--	--	--	--	--	--
06/16/98	0.51	--	none	none	--	--	--
07/16/98	none	--	--	--	--	--	--
08/19/98	0.51	--	--	--	--	--	--
09/17/98	0.78	--	none	none	--	--	--
10/14/98	0.77	--	--	--	--	--	--
11/18/98	0.84	--	--	--	--	--	--
12/16/98	0.96	0.02	none	none	--	--	--
01/12/99	0.96	--	--	--	--	--	--
02/16/99	0.05	--	--	--	--	--	--
03/10/99	0.09	--	none	none	--	--	--
04/12/99	0.12	--	--	--	--	--	--
05/18/99	none	--	--	--	--	--	--
06/15/99	none	--	none	none	--	--	--
07/21/99	none	--	--	--	--	--	--
08/17/99	0.02	--	--	--	--	--	--
09/20/99	0.15	--	none	none	--	--	--
10/19/99	0.52	--	--	--	--	--	--
11/17/99	0.45	--	--	--	--	--	--
12/16/99	0.47	0.03	none	none	--	--	--
01/11/00	0.49	--	--	--	--	--	--
02/15/00	0.55	--	--	--	--	--	--
03/16/00	0.38	--	none	none	--	--	--
04/19/00	0.35	--	--	--	--	--	--
05/15/00	none	--	--	--	--	--	--
06/13/00	none	--	none	none	--	--	--
07/25/00	none	--	--	--	--	--	--
08/23/00	none	--	--	--	--	--	--
09/22/00	0.02	--	none	none	--	--	--

Table 1

Historical In-Well LNAPL Thickness Measurements
LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Date	MW45-12 (MW18-10 (85-3[3]))[2]	MW44-12 (85-5B)[2]	85-6	MW46-12 (86-1)[2]	MW50-12	MW51-12	MW52-12
10/23/00	none	--	--	--	--	--	--
11/16/00	0.02	--	--	--	--	--	--
12/20/00	none	0.04	none	none	--	--	--
01/18/01	none	--	--	--	--	--	--
02/21/01	none	--	--	--	--	--	--
03/21/01	none	--	none	none	--	--	--
04/17/01	none	--	--	--	--	--	--
05/15/01	none	--	--	--	--	--	--
06/13/01	none	--	none	none	--	--	--
07/16/01	none	--	--	--	--	--	--
08/22/01	none	--	--	--	--	--	--
09/13/01	none	--	none	none	--	--	--
10/09/01	none	--	--	--	--	--	--
11/13/01	none	--	--	--	--	--	--
12/19/01	none	0.03	none	none	--	--	--
03/21/03	0.06	none	none	none	--	--	--
07/15/03	0.25	none	none	--	--	--	--
10/07/03	none	none	none	none	--	--	--
12/17/03	none	none	none	none	--	--	--
03/15/04	none	none	none	none	--	--	--
10/04/04	0.12	none	none	none	--	--	--
12/03/04	0.10	none	none	none	--	--	--
04/06/05	none	none	none	none	--	--	--
12/02/05	none	none	none	none	--	--	--
09/11/06	--	none	none	none	--	--	--
05/09/07	none	none	none	none	--	--	--
10/15/07	0.02	none	none	none	--	--	--
04/23/08	none	none	none	none	--	--	--
10/08/08	none	none	none	none	--	--	--
04/06/09	none	none	none	none	--	--	--
10/06/09	none	none	none	none	--	--	--
10/11/10	none	none	none	none	--	--	--
09/21/11	none	none	none	none	--	--	--
10/22/12	none	none	none	none	--	--	--
12/13/12	--	--	--	--	none	trace (sheen)	none
01/11/13	none	none	none	none	none	none	none
07/18/13	trace (sheen)	trace (sheen)	none	none	none	trace (sheen)	trace (sheen)
10/28/13	none	none	none	none	trace (sheen)	none	trace (sheen)
04/14/14	none	none	none	none	none	none	none
10/03/14	none	none	none	none	none	none	none
04/03/15	none	none	none	none	none	none	none
10/19/15	none	none	none	none	none	none	none

Notes:
Thickness measurements are in feet
-- Not measured
[1] Initiated use of keck interface probe for all product measurements.
[2] Well IDs in parentheses (i.e. (MW18-10)) represent previously installed MWs that were abandoned or destroyed
[3] Monitoring well 85-3 was installed such that the well screen did not straddle the water table at all times (screen was submerged during seasonal water table flucuations). MW18-10 was installed to correct this issue and 85-3 was abandoned.

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface[2]	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
	Units							
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	200	200	89	660000	1300000	1330000	ID
1,1,2,2-Tetrachloroethane	ug/L	8.5	35	78	12000	77000	2970000	ID
1,1,2-Trichloroethane	ug/L	5	5	330	17000	110000	4420000	NA
1,1-Dichloroethane	ug/L	880	2500	740	1000000	2300000	5060000	380000
1,1-Dichloroethene	ug/L	7	7	130	200	1300	2250000	97000
1,2,4-Trichlorobenzene	ug/L	70	70	99	300000	300000	300000	NA
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	0.2	NA	220	1200	1230	NA
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05	0.05	5.7	2400	15000	4200000	ID
1,2-Dichlorobenzene	ug/L	600	600	13	160000	160000	156000	NA
1,2-Dichloroethane	ug/L	5	5	360	9600	59000	8520000	2500000
1,2-Dichloropropane	ug/L	5	5	230	16000	36000	2800000	550000
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	111000	ID
1,4-Dichlorobenzene	ug/L	75	75	17	16000	74000	73800	NA
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000	38000	2200	240000000	240000000	240000000	ID
2-Chloroethyl vinyl ether	ug/L	ID	ID	NA	ID	ID	15000000	ID
2-Hexanone	ug/L	1000	2900	ID	4200000	8700000	16000000	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1800	5200	ID	20000000	20000000	20000000	ID
Acetone	ug/L	730	2100	1700	1000000000	1000000000	1000000000	15000000
Benzene	ug/L	5	5	200	5600	35000	1750000	68000
Bromodichloromethane	ug/L	80	80	ID	4800	37000	6740000	ID
Bromoform	ug/L	80	80	ID	470000	3100000	3100000	ID
Bromomethane (Methyl bromide)	ug/L	10	29	35	4000	9000	14500000	ID
Carbon disulfide	ug/L	800	2300	ID	250000	550000	1190000	13000
Carbon tetrachloride	ug/L	5	5	45	370	2400	793000	ID
Chlorobenzene	ug/L	100	100	25	210000	470000	472000	160000
Chloroethane	ug/L	430	1700	1100	5700000	5700000	5740000	110000
Chloroform (Trichloromethane)	ug/L	80	80	350	28000	180000	7920000	ID
Chloromethane (Methyl chloride)	ug/L	260	1100	ID	8600	45000	6340000	36000
cis-1,2-Dichloroethene	ug/L	70	70	620	93000	210000	3500000	530000
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	80	80	ID	14000	110000	2600000	ID
Dichlorodifluoromethane (CFC-12)	ug/L	1700	4800	ID	220000	300000	300000	ID
Ethylbenzene	ug/L	74	74	18	110000	170000	169000	43000
Isopropyl benzene	ug/L	800	2300	28	56000	56000	56000	29000
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/L	40	40	7100	47000000	47000000	46800000	ID
Methylene chloride	ug/L	5	5	1500	220000	1400000	17000000	ID
Styrene	ug/L	100	100	80	170000	310000	310000	140000
Tetrachloroethene	ug/L	5	5	60	25000	170000	200000	ID

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface[2]	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
VOCs (continued)								
Toluene	ug/L	790	790	270	530000	530000	526000	61000
trans-1,2-Dichloroethene	ug/L	100	100	1500	85000	200000	6300000	230000
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/L	5	5	200	2200	4900	1100000	ID
Trichlorofluoromethane (CFC-11)	ug/L	2600	7300	NA	1100000	1100000	1100000	ID
Trifluorotrichloroethane (Freon 113)	ug/L	170000	170000	32	170000	170000	170000	ID
Vinyl chloride	ug/L	2	2	13	1100	13000	2760000	33000
Xylenes (total)	ug/L	280	280	41	190000	190000	186000	70000
Semi-Volatile Organic Compounds (SVOCs)								
1,2,4-Trichlorobenzene	ug/L	70	70	99	300000	300000	300000	NA
1,2-Dichlorobenzene	ug/L	600	600	13	160000	160000	156000	NA
1,2-Diphenylhydrazine	ug/L	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	111000	ID
1,4-Dichlorobenzene	ug/L	75	75	17	16000	74000	73800	NA
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/L	730	2100	NA	NLV	NLV	1200000	ID
2,4,6-Trichlorophenol	ug/L	120	470	5	NLV	NLV	800000	ID
2,4-Dichlorophenol	ug/L	73	210	11	NLV	NLV	4500000	ID
2,4-Dimethylphenol	ug/L	370	1000	380	NLV	NLV	7870000	ID
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/L	7.7	32	NA	NLV	NLV	270000	ID
2,6-Dinitrotoluene	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/L	1800	5200	NA	ID	ID	6740	ID
2-Chlorophenol	ug/L	45	130	18	ID	ID	22000000	ID
2-Methylnaphthalene	ug/L	260	750	19	25000	25000	24600	ID
2-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
2-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/L	20	58	ID	NLV	NLV	2500000	ID
3&4-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
3,3'-Dichlorobenzidine	ug/L	1.1	4.3	0.3	NLV	NLV	3110	ID
3-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/L	20	20		NLV	NLV	200000	ID
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	150	420	7.4	NLV	NLV	3900000	ID
4-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/L	370	1000	30	NLV	NLV	28000000	NA
4-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/L	1300	3800	38	4200	4200	4240	ID

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface[2]	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
SVOCs (continued)								
Acenaphthylene	ug/L	52	150	ID	3900	3900	3930	ID
Acetophenone	ug/L	1500	4400	NA	6100000	6100000	6100000	ID
Anthracene	ug/L	43	43	ID	43	43	43.4	ID
Atrazine	ug/L	3	3	7.3	NLV	NLV	70000	ID
Benzaldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA
Benzidine	ug/L	0.3	0.3	0.3	NLV	NLV	520000	ID
Benzo(a)anthracene	ug/L	2.1	8.5	ID	NLV	NLV	9.4	ID
Benzo(a)pyrene	ug/L	5	5	ID	NLV	NLV	1.62	ID
Benzo(b)fluoranthene	ug/L	1.5	1.5	ID	ID	ID	1.5	ID
Benzo(g,h,i)perylene	ug/L	1	1	NA	NLV	NLV	0.26	ID
Benzo(k)fluoranthene	ug/L	1	1	NA	NLV	NLV	0.8	ID
Biphenyl (1,1-Biphenyl)	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/L	2	8.3	1	38000	210000	17200000	17000000
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	6	6	25	NLV	NLV	340	NA
Butyl benzylphthalate (BBP)	ug/L	1200	2700	67	NLV	NLV	2690	ID
Caprolactam	ug/L	5800	17000	NA	NLV	NLV	5250000000	NA
Carbazole	ug/L	85	350	10	NLV	NLV	7480	ID
Chrysene	ug/L	1.6	1.6	ID	ID	ID	1.6	ID
Dibenz(a,h)anthracene	ug/L	2	2	ID	NLV	NLV	2.49	ID
Dibenzofuran	ug/L	ID	ID	4	10000	10000	10000	ID
Diethyl phthalate	ug/L	5500	16000	110	NLV	NLV	1080000	NA
Dimethyl phthalate	ug/L	73000	210000	NA	NLV	NLV	4190000	NA
Di-n-butylphthalate (DBP)	ug/L	880	2500	9.7	NLV	NLV	11200	NA
Di-n-octyl phthalate (DnOP)	ug/L	130	380	ID	NLV	NLV	3000	ID
Fluoranthene	ug/L	210	210	1.6	210	210	206	ID
Fluorene	ug/L	880	2000	12	2000	2000	1980	ID
Hexachlorobenzene	ug/L	1	1	0.2	440	3000	6200	ID
Hexachlorobutadiene	ug/L	15	42	0.053	1600	3200	3230	ID
Hexachlorocyclopentadiene	ug/L	50	50	ID	130	420	1800	ID
Hexachloroethane	ug/L	7.3	21	6.7	27000	50000	50000	ID
Indeno(1,2,3-cd)pyrene	ug/L	2	2	ID	NLV	NLV	0.022	ID
Isophorone	ug/L	770	3100	1300	NLV	NLV	12000000	NA
Naphthalene	ug/L	520	1500	11	31000	31000	31000	NA
Nitrobenzene	ug/L	3.4	9.6	180	280000	550000	2090000	NA
N-Nitrosodi-n-propylamine	ug/L	5	5	NA	NLV	NLV	9890000	ID
N-Nitrosodiphenylamine	ug/L	270	1100	NA	NLV	NLV	35100	ID
Pentachlorophenol	ug/L	1	1	2.8	NLV	NLV	1850000	ID
Phenanthrene	ug/L	52	150	2	1000	1000	1000	ID
Phenol	ug/L	4400	13000	450	NLV	NLV	82800000	NA
Pyrene	ug/L	140	140	ID	140	140	135	ID

Table 2

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential [1]						
		Residential Drinking Water	Non-Residential Drinking Water	Groundwater Surface Water Interface[2]	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Water Solubility	Flammability and Explosivity Screening Levels
		a	b	c	d	e	f	g
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1221 (PCB-1221)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1232 (PCB-1232)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1242 (PCB-1242)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1248 (PCB-1248)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1254 (PCB-1254)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Aroclor-1260 (PCB-1260)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7
Total PCBs	ug/L	0.5	0.5	0.2	45	45	3.3	44.7

Notes:
[1] MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.46 and R 299.48, respectively, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended
[2] Carbonate hardness of 344 mg/L was used to calculate Groundwater-Surface Water Interface Criteria.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.
B - Result detected in associated method blank.
J - Estimated concentration.
ID - means insufficient data to develop criterion.
NA - means a criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL - means hazardous substance is not likely to leach under most soil conditions.
NLV - means hazardous substance is not likely to volatilize under most conditions.
☐ - Exceeds Generic Cleanup Criteria.
Superscript letter denotes the criterion exceeded.

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***85-3~120685***	***85-3~050586***	***GW-17360-071503-SP-064***	***GW-17360-100703-JB-097***	***GW-17360-121703-JB-096***
Sample Date:		***12/6/1985***	***5/5/1986***	***7/15/2003***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	2 U	2	--	1.0 U	--
1,1,2,2-Tetrachloroethane	ug/L	2 U	2 U	--	1.0 U	--
1,1,2-Trichloroethane	ug/L	3 U	3 U	--	1.0 U	--
1,1-Dichloroethane	ug/L	2 U	2 U	--	0.29 J	--
1,1-Dichloroethene	ug/L	2 U	2 U	--	1.0 U	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	5.0 UJ	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	1.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	1.0 U	--
1,2-Dichlorobenzene	ug/L	--	--	--	1.0 U	--
1,2-Dichloroethane	ug/L	2 U	2 U	--	1.0 U	--
1,2-Dichloropropane	ug/L	3 U	3 U	--	1.0 U	--
1,3-Dichlorobenzene	ug/L	--	--	--	1.0 U	--
1,4-Dichlorobenzene	ug/L	--	--	--	1.0 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	25 UJ	--
2-Chloroethyl vinyl ether	ug/L	10 U	10 U	--	--	--
2-Hexanone	ug/L	--	--	--	50 UJ	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	50 UJ	--
Acetone	ug/L	--	--	--	25 UJ	--
Benzene	ug/L	1 U	1 U	--	1.0 U	--
Bromodichloromethane	ug/L	2 U	2 U	--	1.0 U	--
Bromoform	ug/L	15 U	15 U	--	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	10 U	10 U	--	1.0 U	--
Carbon disulfide	ug/L	--	--	--	5.0 U	--
Carbon tetrachloride	ug/L	4 U	4 U	--	1.0 U	--
Chlorobenzene	ug/L	1 U	1 U	--	1.0 U	--
Chloroethane	ug/L	10 U	10 U	--	1.0 U	--
Chloroform (Trichloromethane)	ug/L	1 U	1 U	--	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	10 U	10 U	--	1.0 U	--
cis-1,2-Dichloroethene	ug/L	--	--	--	1.0 U	--
cis-1,3-Dichloropropene	ug/L	4 U	4 U	--	1.0 U	--
Cyclohexane	ug/L	--	--	--	1.0 U	--
Dibromochloromethane	ug/L	3 U	3 U	--	1.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	1.0 U	--
Ethylbenzene	ug/L	1 U	1 U	--	1.0 U	--
Isopropyl benzene	ug/L	--	--	--	5.0 U	--
Methyl acetate	ug/L	--	--	--	10 U	--
Methyl cyclohexane	ug/L	--	--	--	1.0 U	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	5.0 U	--
Methylene chloride	ug/L	2 U	2 U	--	5.0 U	--
Styrene	ug/L	--	--	--	1.0 U	--
Tetrachloroethene	ug/L	2 U	2	--	0.54 J	--

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***85-3~120685***	***85-3~050586***	***GW-17360-071503-SP-064***	***GW-17360-100703-JB-097***	***GW-17360-121703-JB-096***
Sample Date:		***12/6/1985***	***5/5/1986***	***7/15/2003***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	3	1 U	--	1.0 U	--
trans-1,2-Dichloroethene	ug/L	2 U	2 U	--	1.0 U	--
trans-1,3-Dichloropropene	ug/L	4 U	4 U	--	1.0 U	--
Trichloroethene	ug/L	2 U	2 U	--	0.69 J	--
Trichlorofluoromethane (CFC-11)	ug/L	3 U	3 U	--	1.0 U	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	1.0 U	--
Vinyl chloride	ug/L	10 U	10 U	--	1.0 U	--
Xylenes (total)	ug/L	--	--	--	3.0 U	--
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	300 U	--	--	--	--
1,2-Dichlorobenzene	ug/L	300 U	--	--	--	--
1,2-Diphenylhydrazine	ug/L	100 U	--	--	--	--
1,3-Dichlorobenzene	ug/L	300 U	--	--	--	--
1,4-Dichlorobenzene	ug/L	300 U	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	100 U	--	250 U	380 U	50 U
2,4,5-Trichlorophenol	ug/L	--	--	250 U	380 U	50 U
2,4,6-Trichlorophenol	ug/L	--	--	200 U	300 U	40 U
2,4-Dichlorophenol	ug/L	--	--	500 U	750 U	100 U
2,4-Dimethylphenol	ug/L	--	--	250 U	380 U	50 U
2,4-Dinitrophenol	ug/L	--	--	1000 UJ	1500 UJ	200 U
2,4-Dinitrotoluene	ug/L	1000 U	--	250 U	380 U	50 U
2,6-Dinitrotoluene	ug/L	900 U	--	250 U	380 U	50 U
2-Chloronaphthalene	ug/L	200 U	--	250 U	380 U	50 U
2-Chlorophenol	ug/L	--	--	250 U	380 U	50 U
2-Methylnaphthalene	ug/L	--	--	250 U	380 U	50 U
2-Methylphenol	ug/L	--	--	250 U	380 U	50 U
2-Nitroaniline	ug/L	--	--	1000 U	1500 U	200 U
2-Nitrophenol	ug/L	--	--	250 U	380 U	50 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	2000 U	--	200 U	300 U	40 U
3-Nitroaniline	ug/L	--	--	1000 U	1500 U	200 U
4,6-Dinitro-2-methylphenol	ug/L	--	--	1000 U	1500 UJ	200 U
4-Bromophenyl phenyl ether	ug/L	700 U	--	250 U	380 U	50 U
4-Chloro-3-methylphenol	ug/L	--	--	250 U	380 U	50 U
4-Chloroaniline	ug/L	--	--	1000 U	1500 U	200 U
4-Chlorophenyl phenyl ether	ug/L	300 U	--	250 U	380 U	50 U
4-Methylphenol	ug/L	--	--	250 U	380 U	50 U
4-Nitroaniline	ug/L	--	--	1000 U	1500 U	200 U
4-Nitrophenol	ug/L	--	--	1000 U	1500 U	200 U
Acenaphthene	ug/L	200 U	--	250 U	380 U	50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***85-3~120685***	***85-3~050586***	***GW-17360-071503-SP-064***	***GW-17360-100703-JB-097***	***GW-17360-121703-JB-096***
Sample Date:		***12/6/1985***	***5/5/1986***	***7/15/2003***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	100 U	--	250 U	380 U	50 U
Acetophenone	ug/L	--	--	250 U	380 U	50 U
Anthracene	ug/L	100 U	--	250 U	380 U	50 U
Atrazine	ug/L	--	--	250 U	380 U	50 U
Benzaldehyde	ug/L	--	--	500 U	750 U	100 U
Benzidine	ug/L	5000 U	--	--	--	--
Benzo(a)anthracene	ug/L	500 U	--	200 U	300 U	40 U
Benzo(a)pyrene	ug/L	500 U	--	200 U	300 U	40 U
Benzo(b)fluoranthene	ug/L	--	--	200 U	300 U	40 U
Benzo(g,h,i)perylene	ug/L	1000 U	--	250 U	380 U	50 U
Benzo(k)fluoranthene	ug/L	500 U	--	250 U	380 U	50 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	500 U	750 U	100 U
bis(2-Chloroethoxy)methane	ug/L	400 U	--	250 U	380 U	50 U
bis(2-Chloroethyl)ether	ug/L	400 U	--	200 U	300 U	40 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	200 U	--	**20 J[ab]**	**97 J[abc]**	4.7 J
Butyl benzylphthalate (BBP)	ug/L	300 U	--	250 U	380 U	50 U
Caprolactam	ug/L	--	--	500 U	750 U	100 U
Carbazole	ug/L	--	--	500 U	750 U	100 U
Chrysene	ug/L	500 U	--	250 U	**36 J[abf]**	50 U
Dibenz(a,h)anthracene	ug/L	1000 U	--	200 U	300 U	40 U
Dibenzofuran	ug/L	--	--	250 U	380 U	50 U
Diethyl phthalate	ug/L	200 U	--	250 U	380 U	50 U
Dimethyl phthalate	ug/L	200 U	--	250 U	380 U	50 U
Di-n-butylphthalate (DBP)	ug/L	100 U	--	250 U	380 U	50 U
Di-n-octyl phthalate (DnOP)	ug/L	200 U	--	250 U	380 U	50 U
Fluoranthene	ug/L	**460[abcdef]**	--	250 U	380 U	50 U
Fluorene	ug/L	**3200[abcdef]**	--	250 U	380 U	50 U
Hexachlorobenzene	ug/L	500 U	--	250 U	380 U	50 U
Hexachlorobutadiene	ug/L	500 U	--	250 U	380 U	50 U
Hexachlorocyclopentadiene	ug/L	500 U	--	250 U	380 U	50 U
Hexachloroethane	ug/L	700 U	--	250 U	380 U	50 U
Indeno(1,2,3-cd)pyrene	ug/L	1000 U	--	200 U	300 U	40 U
Isophorone	ug/L	200 U	--	250 U	380 U	50 U
Naphthalene	ug/L	**170[c]**	--	250 U	380 U	50 U
Nitrobenzene	ug/L	400 U	--	200 U	300 U	40 U
N-Nitrosodi-n-propylamine	ug/L	4 U	--	250 U	380 U	50 U
N-Nitrosodiphenylamine	ug/L	400 U	--	250 U	380 U	50 U
Pentachlorophenol	ug/L	--	--	1000 U	1500 U	200 U
Phenanthrene	ug/L	**2800[abcdef]**	--	250 U	380 U	50 U
Phenol	ug/L	--	--	250 U	380 U	50 U
Pyrene	ug/L	**560[abdef]**	--	250 U	110 J	50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***85-3~120685***	***85-3~050586***	***GW-17360-071503-SP-064***	***GW-17360-100703-JB-097***	***GW-17360-121703-JB-096***
Sample Date:		***12/6/1985***	***5/5/1986***	***7/15/2003***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	ID	ID	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	ID	ID	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	ID	ID	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	ID	ID	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	ID	ID	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	ID	ID	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	ID	ID	-	-	-
Total PCBs	ug/L	ID	ID	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-031704-JB-149***	***GW-17360-080904-DCR-200***	***GW-17360-100604-DCR-277***	***GW-17360-120204-DCR-312***	***GW-17360-040605-DCR-357***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***4/6/2005***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 UJ
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	3.1 J	25 U	1.1 J	25 U	120 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	250 UJ
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	0.41 J	50 U	250 UJ
Acetone	ug/L	25 U	25 U	25 U	25 U	120 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	0.68 J	25 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	50 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	25 UJ
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Tetrachloroethene	ug/L	0.60 J	0.35 J	0.31 J	0.38 J	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-031704-JB-149***	***GW-17360-080904-DCR-200***	***GW-17360-100604-DCR-277***	***GW-17360-120204-DCR-312***	***GW-17360-040605-DCR-357***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***4/6/2005***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ
Trichloroethene	ug/L	0.36 J	1.0 U	1.0 U	1.0 U	5.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	10 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	25 U	50 U	25 U	25 U	5.0 U
2,4,5-Trichlorophenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
2,4,6-Trichlorophenol	ug/L	20 U	40 U	20 U	20 U	4.0 U
2,4-Dichlorophenol	ug/L	50 U	100 U	50 U	50 U	10 U
2,4-Dimethylphenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
2,4-Dinitrophenol	ug/L	100 U	200 U	100 U	100 U	20 U
2,4-Dinitrotoluene	ug/L	25 U	50 U	25 U	25 U	5.0 U
2,6-Dinitrotoluene	ug/L	25 U	50 U	25 U	25 U	5.0 U
2-Chloronaphthalene	ug/L	25 U	50 U	25 U	25 U	5.0 U
2-Chlorophenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
2-Methylnaphthalene	ug/L	25 U	50 U	25 U	25 U	5.0 U
2-Methylphenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
2-Nitroaniline	ug/L	100 U	200 U	100 U	100 U	20 U
2-Nitrophenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	20 U	40 U	20 U	20 U	4.0 U
3-Nitroaniline	ug/L	100 U	200 U	100 U	100 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	100 U	200 U	100 U	100 U	20 U
4-Bromophenyl phenyl ether	ug/L	25 U	50 U	25 U	25 U	5.0 U
4-Chloro-3-methylphenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
4-Chloroaniline	ug/L	100 U	200 U	100 U	100 U	20 U
4-Chlorophenyl phenyl ether	ug/L	25 U	50 U	25 U	25 U	5.0 U
4-Methylphenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
4-Nitroaniline	ug/L	100 U	200 U	100 U	100 U	20 U
4-Nitrophenol	ug/L	100 U	200 U	100 U	100 U	20 U
Acenaphthene	ug/L	25 U	50 U	25 U	25 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-031704-JB-149***	***GW-17360-080904-DCR-200***	***GW-17360-100604-DCR-277***	***GW-17360-120204-DCR-312***	***GW-17360-040605-DCR-357***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***4/6/2005***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Acetophenone	ug/L	25 U	50 U	25 U	25 U	5.0 U
Anthracene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Atrazine	ug/L	25 U	50 U	25 U	25 U	5.0 U
Benzaldehyde	ug/L	50 U	100 U	50 U	50 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	20 U	40 U	20 U	20 U	1.0 U
Benzo(a)pyrene	ug/L	20 U	40 U	20 U	20 U	2.0 U
Benzo(b)fluoranthene	ug/L	20 U	40 U	20 U	20 U	2.0 U
Benzo(g,h,i)perylene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Benzo(k)fluoranthene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	50 U	100 U	50 U	50 U	10 U
bis(2-Chloroethoxy)methane	ug/L	25 U	50 U	25 U	25 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	20 U	40 U	20 U	20 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	25 U	**8.4 J[ab]**	25 U	25 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	25 U	50 U	25 U	25 U	5.0 U
Caprolactam	ug/L	50 U	9.5 J	50 U	50 U	10 U
Carbazole	ug/L	50 U	100 U	50 U	50 U	10 U
Chrysene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Dibenz(a,h)anthracene	ug/L	20 U	40 U	20 U	20 U	2.0 U
Dibenzofuran	ug/L	25 U	50 U	25 U	25 U	5.0 U
Diethyl phthalate	ug/L	25 U	50 U	25 U	25 U	3.6 J
Dimethyl phthalate	ug/L	25 U	50 U	25 U	25 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	25 U	50 U	25 U	25 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	25 U	50 U	25 U	25 U	5.0 U
Fluoranthene	ug/L	25 U	**5.8 J[c]**	25 U	25 U	5.0 U
Fluorene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Hexachlorobenzene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Hexachlorobutadiene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Hexachlorocyclopentadiene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Hexachloroethane	ug/L	25 U	50 U	25 U	25 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	20 U	40 U	20 U	20 U	2.0 U
Isophorone	ug/L	25 U	50 U	25 U	25 U	5.0 U
Naphthalene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Nitrobenzene	ug/L	20 U	40 U	20 U	20 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	25 U	50 U	25 U	25 U	5.0 U
N-Nitrosodiphenylamine	ug/L	25 U	50 U	25 U	25 U	5.0 U
Pentachlorophenol	ug/L	100 U	200 U	100 U	100 U	20 U
Phenanthrene	ug/L	25 U	50 U	25 U	25 U	5.0 U
Phenol	ug/L	25 U	50 U	25 U	25 U	5.0 U
Pyrene	ug/L	5.0 J	6.1 J	25 U	25 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-031704-JB-149***	***GW-17360-080904-DCR-200***	***GW-17360-100604-DCR-277***	***GW-17360-120204-DCR-312***	***GW-17360-040605-DCR-357***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***4/6/2005***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-062905-DCR-407***	***GW-17360-042308-DR-175***	***GW-17360-100808-DR-222***	***GW-17360-040809-DR-271***	***GW-17360-100709-DR-293***
Sample Date:		***6/29/2005***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/7/2009***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	4.0 U	4.0 UJ	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 UJ	4.0 U	4.0 UJ	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	4.0 U	4.0 UJ	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 UJ
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 UJ	15 J	100 U	0.97 J	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 UJ	200 U	200 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	200 U	200 U	50 U	50 U
Acetone	ug/L	25 UJ	5.0 J	100 U	9.1 J	25 U
Benzene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	4.0 UJ	4.0 UJ	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	4.0 UJ	4.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	4.0 U	4.0 U	1.0 UJ	1.0 U
Carbon disulfide	ug/L	5.0 U	20 U	20 UJ	0.87 J	5.0 U
Carbon tetrachloride	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	4.0 UJ	4.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 UJ	4.0 U	4.0 U	1.0 UJ	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	4.0 U	4.0 U	0.36 J	0.39 J
cis-1,3-Dichloropropene	ug/L	1.0 UJ	4.0 UJ	4.0 UJ	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	4.0 UJ	4.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	4.0 U	4.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 U	4.0 UJ	4.0 UJ	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 UJ	40 U	40 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 UJ	4.0 U	4.0 U	1.0 U	1.0 UJ
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	20 U	20 U	4.8 J	3.1 J
Methylene chloride	ug/L	5.0 UJ	20 U	20 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.42 J	4.0 U	4.0 U	0.99 J	0.64 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-062905-DCR-407***	***GW-17360-042308-DR-175***	***GW-17360-100808-DR-222***	***GW-17360-040809-DR-271***	***GW-17360-100709-DR-293***
Sample Date:		***6/29/2005***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/7/2009***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	4.0 UJ	4.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	4.0 U	4.0 U	0.28 J	0.28 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	4.0 U	4.0 U	1.0 UJ	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	6.1	4.0 U	4.0 U	1.0 UJ	1.0 UJ
Vinyl chloride	ug/L	1.0 U	4.0 U	4.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	8.0 UJ	8.0 UJ	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	40 U	20 U	16 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	100 U	50 U	40 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	200 U	100 U	80 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2-Methylphenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
2-Nitroaniline	ug/L	20 U	200 U	100 U	80 U	20 U
2-Nitrophenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	R	40 U	20 U	16 U	4.0 U
3-Nitroaniline	ug/L	20 U	200 U	100 U	80 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	200 U	100 U	80 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
4-Chloroaniline	ug/L	20 U	200 U	100 U	80 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
4-Methylphenol	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
4-Nitroaniline	ug/L	20 U	200 U	100 U	80 U	20 U
4-Nitrophenol	ug/L	20 U	200 U	100 U	80 U	20 U
Acenaphthene	ug/L	5.0 U	50 U	25 U	20 U	0.61 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-062905-DCR-407***	***GW-17360-042308-DR-175***	***GW-17360-100808-DR-222***	***GW-17360-040809-DR-271***	***GW-17360-100709-DR-293***
Sample Date:		***6/29/2005***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/7/2009***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Acetophenone	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Anthracene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Atrazine	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Benzaldehyde	ug/L	10 U	100 U	50 U	40 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	10 U	5.0 U	4.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	20 U	10 U	8.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	20 U	10 U	8.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	100 U	50 U	40 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	40 U	20 U	16 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Caprolactam	ug/L	10 U	100 U	50 UJ	40 U	10 U
Carbazole	ug/L	10 U	100 U	50 U	40 U	10 U
Chrysene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	20 U	10 U	8.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	50 U	25 U	20 U	0.43 J
Diethyl phthalate	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Fluoranthene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Fluorene	ug/L	5.0 U	50 U	25 U	20 U	0.49 J
Hexachlorobenzene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Hexachlorocyclopentadiene	ug/L	R	50 U	25 U	20 U	5.0 U
Hexachloroethane	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	20 U	10 U	8.0 U	2.0 U
Isophorone	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Naphthalene	ug/L	5.0 UJ	50 U	25 U	20 U	0.39 J
Nitrobenzene	ug/L	4.0 U	40 U	20 U	16 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Pentachlorophenol	ug/L	20 U	200 U	100 U	80 U	20 U
Phenanthrene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U
Phenol	ug/L	5.0 U	9.8 J	25 U	20 U	5.0 U
Pyrene	ug/L	5.0 U	50 U	25 U	20 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-3***	***85-3***	***85-3***	***85-3***	***85-3***
Sample Identification:		***GW-17360-062905-DCR-407***	***GW-17360-042308-DR-175***	***GW-17360-100808-DR-222***	***GW-17360-040809-DR-271***	***GW-17360-100709-DR-293***
Sample Date:		***6/29/2005***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/7/2009***
Sample Type:						
Segment Depth:		***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***	***(20.3-30.3) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***85-5B~120685***	***GW-17360-100703-JB-096***	***GW-17360-121703-JB-098***	***GW-17360-031704-JB-148***	***GW-17360-080904-DCR-199***
Sample Date:		***12/6/1985***	***10/7/2003***	***12/18/2003***	***3/17/2004***	***8/9/2004***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	3	1.0 U	--	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	2 U	1.0 U	--	1.0 UJ	1.0 U
1,1,2-Trichloroethane	ug/L	3 U	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	6	0.41 J	--	0.64 J	0.42 J
1,1-Dichloroethene	ug/L	2 U	1.0 U	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	5.0 UJ	--	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	1.0 U	--	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	1.0 U	--	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	2 U	1.0 U	--	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	3 U	1.0 U	--	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	25 UJ	--	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	10 U	--	--	--	--
2-Hexanone	ug/L	--	50 UJ	--	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	4.5 J	--	0.35 J	0.57 J
Acetone	ug/L	--	25 UJ	--	25 U	2.0 J
Benzene	ug/L	1 U	1.0 U	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	2 U	1.0 U	--	1.0 U	1.0 U
Bromoform	ug/L	15 U	1.0 U	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	10 U	1.0 U	--	1.0 U	1.0 U
Carbon disulfide	ug/L	--	5.0 U	--	5.0 U	7.3
Carbon tetrachloride	ug/L	4 U	1.0 U	--	1.0 U	1.0 U
Chlorobenzene	ug/L	1 U	1.0 U	--	1.0 U	1.0 U
Chloroethane	ug/L	10 U	1.0 U	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1 U	1.0 U	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	10 U	1.0 U	--	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	--	0.29 J	--	1.4	2.7
cis-1,3-Dichloropropene	ug/L	4 U	1.0 U	--	1.0 U	1.0 U
Cyclohexane	ug/L	--	1.0 U	--	1.0 U	1.0 U
Dibromochloromethane	ug/L	3 U	1.0 U	--	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	--	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1 U	1.0 U	--	1.0 U	1.0 U
Isopropyl benzene	ug/L	--	5.0 U	--	0.31 J	0.44 J
Methyl acetate	ug/L	--	10 U	--	10 U	10 U
Methyl cyclohexane	ug/L	--	1.0 U	--	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	--	5.0 U	--	5.0 U	5.0 U
Methylene chloride	ug/L	2 U	5.0 U	--	5.0 U	5.0 U
Styrene	ug/L	--	1.0 U	--	1.0 U	1.0 U
Tetrachloroethene	ug/L	2	0.64 J	--	0.39 J	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***85-5B~120685***	***GW-17360-100703-JB-096***	***GW-17360-121703-JB-098***	***GW-17360-031704-JB-148***	***GW-17360-080904-DCR-199***
Sample Date:		***12/6/1985***	***10/7/2003***	***12/18/2003***	***3/17/2004***	***8/9/2004***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1 U	1.0 U	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	12	1.0 U	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	4 U	1.0 U	--	1.0 U	1.0 U
Trichloroethene	ug/L	4	1.1	--	0.77 J	0.30 J
Trichlorofluoromethane (CFC-11)	ug/L	3 U	1.0 U	--	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	1.0 U	--	1.0 U	1.0 U
Vinyl chloride	ug/L	10 U	1.0 U	--	1.0 U	1.0 U
Xylenes (total)	ug/L	--	3.0 U	--	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	3 U	--	--	--	--
1,2-Dichlorobenzene	ug/L	3 U	--	--	--	--
1,2-Diphenylhydrazine	ug/L	1 U	--	--	--	--
1,3-Dichlorobenzene	ug/L	3 U	--	--	--	--
1,4-Dichlorobenzene	ug/L	3 U	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	1 U	5.0 U	20 U	5.0 U	20 U
2,4,5-Trichlorophenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
2,4,6-Trichlorophenol	ug/L	--	4.0 U	16 U	4.0 U	16 U
2,4-Dichlorophenol	ug/L	--	10 U	40 U	10 U	40 U
2,4-Dimethylphenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
2,4-Dinitrophenol	ug/L	--	20 UJ	80 U	20 U	80 U
2,4-Dinitrotoluene	ug/L	10 U	5.0 U	20 U	5.0 U	20 U
2,6-Dinitrotoluene	ug/L	9 U	5.0 U	20 U	5.0 U	20 U
2-Chloronaphthalene	ug/L	2 U	5.0 U	20 U	5.0 U	20 U
2-Chlorophenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
2-Methylnaphthalene	ug/L	--	5.0 U	20 U	5.0 U	20 U
2-Methylphenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
2-Nitroaniline	ug/L	--	20 U	80 U	20 U	80 U
2-Nitrophenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	20 U	4.0 U	16 U	4.0 U	16 U
3-Nitroaniline	ug/L	--	20 U	80 U	20 U	80 U
4,6-Dinitro-2-methylphenol	ug/L	--	20 UJ	80 U	20 U	80 U
4-Bromophenyl phenyl ether	ug/L	7 U	5.0 U	20 U	5.0 U	20 U
4-Chloro-3-methylphenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
4-Chloroaniline	ug/L	--	20 U	80 U	20 U	80 U
4-Chlorophenyl phenyl ether	ug/L	3 U	5.0 U	20 U	5.0 U	20 U
4-Methylphenol	ug/L	--	5.0 U	20 U	5.0 U	20 U
4-Nitroaniline	ug/L	--	20 U	80 U	20 U	80 U
4-Nitrophenol	ug/L	--	20 U	80 U	20 U	80 U
Acenaphthene	ug/L	2 U	1.4 J	20 U	1.0 J	20 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***85-5B~120685***	***GW-17360-100703-JB-096***	***GW-17360-121703-JB-098***	***GW-17360-031704-JB-148***	***GW-17360-080904-DCR-199***
Sample Date:		***12/6/1985***	***10/7/2003***	***12/18/2003***	***3/17/2004***	***8/9/2004***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	1 U	5.0 U	20 U	5.0 U	20 U
Acetophenone	ug/L	--	5.0 U	20 U	5.0 U	20 U
Anthracene	ug/L	1 U	5.0 U	20 U	0.74 J	20 U
Atrazine	ug/L	--	5.0 U	20 U	5.0 U	20 U
Benzaldehyde	ug/L	--	10 U	40 U	10 U	40 U
Benzidine	ug/L	50 U	--	--	--	--
Benzo(a)anthracene	ug/L	5 U	4.0 U	16 U	1.5 J	**5.4 J[a]**
Benzo(a)pyrene	ug/L	5 U	4.0 U	16 U	4.0 U	**2.3 J[f]**
Benzo(b)fluoranthene	ug/L	--	4.0 U	16 U	1.3 J	**4.3 J[abf]**
Benzo(g,h,i)perylene	ug/L	10 U	5.0 U	20 U	5.0 U	**2.0 J[abf]**
Benzo(k)fluoranthene	ug/L	5 U	5.0 U	20 U	5.0 U	**2.1 J[abf]**
Biphenyl (1,1-Biphenyl)	ug/L	--	10 U	40 U	10 U	40 U
bis(2-Chloroethoxy)methane	ug/L	4 U	5.0 U	20 U	5.0 U	20 U
bis(2-Chloroethyl)ether	ug/L	4 U	4.0 U	16 U	4.0 U	16 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	2 U	0.86 J	20 U	5.0 U	20 U
Butyl benzylphthalate (BBP)	ug/L	3 U	5.0 U	20 U	5.0 U	20 U
Caprolactam	ug/L	--	10 U	40 U	16	40 U
Carbazole	ug/L	--	10 U	40 U	10 U	40 U
Chrysene	ug/L	5 U	0.86 J	20 U	1.5 J	**4.0 J[abf]**
Dibenz(a,h)anthracene	ug/L	10 U	4.0 U	16 U	4.0 U	16 U
Dibenzofuran	ug/L	--	0.81 J	20 U	0.67 J	20 U
Diethyl phthalate	ug/L	2 U	5.0 U	20 U	5.0 U	20 U
Dimethyl phthalate	ug/L	2 U	5.0 U	20 U	5.0 U	20 U
Di-n-butylphthalate (DBP)	ug/L	1 U	5.0 U	20 U	5.0 U	20 U
Di-n-octyl phthalate (DnOP)	ug/L	2 U	5.0 U	20 U	5.0 U	20 U
Fluoranthene	ug/L	1 U	**7.6[c]**	**10 J[c]**	**13[c]**	**19 J[c]**
Fluorene	ug/L	4	1.2 J	20 U	1.6 J	20 U
Hexachlorobenzene	ug/L	5 U	5.0 U	20 U	5.0 U	20 U
Hexachlorobutadiene	ug/L	5 U	5.0 U	20 U	5.0 U	20 U
Hexachlorocyclopentadiene	ug/L	5 U	5.0 U	20 U	5.0 U	20 U
Hexachloroethane	ug/L	7 U	5.0 U	20 U	5.0 U	20 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	4.0 U	16 U	**0.75 J[f]**	**1.8 J[f]**
Isophorone	ug/L	2 U	5.0 U	20 U	5.0 U	20 U
Naphthalene	ug/L	1 U	5.0 U	20 U	5.0 U	20 U
Nitrobenzene	ug/L	4 U	4.0 U	16 U	4.0 U	16 U
N-Nitrosodi-n-propylamine	ug/L	4 U	5.0 U	20 U	5.0 U	20 U
N-Nitrosodiphenylamine	ug/L	3 U	5.0 U	20 U	5.0 U	20 U
Pentachlorophenol	ug/L	--	20 U	80 U	20 U	80 U
Phenanthrene	ug/L	**3[c]**	**3.7 J[c]**	**4.9 J[c]**	**6.5[c]**	**4.3 J[c]**
Phenol	ug/L	--	10	20 U	2.2 J	20 U
Pyrene	ug/L	5	6.8	12 J	10	22

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***85-5B~120685***	***GW-17360-100703-JB-096***	***GW-17360-121703-JB-098***	***GW-17360-031704-JB-148***	***GW-17360-080904-DCR-199***
Sample Date:		***12/6/1985***	***10/7/2003***	***12/18/2003***	***3/17/2004***	***8/9/2004***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100604-DCR-276***	***GW-17360-120204-DCR-311***	***GW-17360-040605-DCR-361***	***GW-17360-062905-DCR-406***	***GW-17360-120605-DCR-581***
Sample Date:		***10/6/2004***	***12/2/2004***	***4/6/2005***	***6/29/2005***	***12/6/2005***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	0.36 J	0.27 J	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	0.36 J	0.35 J	0.21 J
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 UJ	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 UJ	50 UJ	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	0.34 J	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 UJ	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	1.9 J	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.33 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
cis-1,2-Dichloroethene	ug/L	0.26 J	0.81 J	1.3	1.6	0.47 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	0.18 J	0.44 J	1.5 J
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Tetrachloroethene	ug/L	0.87 J	0.64 J	1.1	0.43 J	1.2

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100604-DCR-276***	***GW-17360-120204-DCR-311***	***GW-17360-040605-DCR-361***	***GW-17360-062905-DCR-406***	***GW-17360-120605-DCR-581***
Sample Date:		***10/6/2004***	***12/2/2004***	***4/6/2005***	***6/29/2005***	***12/6/2005***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	0.65 J	0.47 J	0.53 J	0.49 J	0.52 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	2.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 UJ
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 UJ
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 UJ
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 UJ
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 UJ
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 UJ
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 UJ
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 UJ
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 UJ
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 UJ
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100604-DCR-276***	***GW-17360-120204-DCR-311***	***GW-17360-040605-DCR-361***	***GW-17360-062905-DCR-406***	***GW-17360-120605-DCR-581***
Sample Date:		***10/6/2004***	***12/2/2004***	***4/6/2005***	***6/29/2005***	***12/6/2005***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	4.0 U	4.0 U	1.0 U	1.0 U	1.0 UJ
Benzo(a)pyrene	ug/L	4.0 U	4.0 U	2.0 U	2.0 U	2.0 UJ
Benzo(b)fluoranthene	ug/L	4.0 U	4.0 U	2.0 U	2.0 U	2.0 UJ
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 UJ
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 UJ
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	6.1 U	5.0 UJ
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Caprolactam	ug/L	10 U	10 U	10 U	10 U	10 UJ
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 UJ
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Dibenz(a,h)anthracene	ug/L	4.0 U	4.0 U	2.0 U	2.0 U	2.0 UJ
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Fluoranthene	ug/L	**2.0 J[c]**	5.0 U	1.5 J	1.0 J	1.2 J
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	R	R
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Indeno(1,2,3-cd)pyrene	ug/L	4.0 U	4.0 U	2.0 U	2.0 U	2.0 UJ
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 UJ
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 UJ
Phenanthrene	ug/L	5.0 U	5.0 U	0.71 J	0.57 J	5.0 UJ
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	1.7 J	5.0 U	1.1 J	0.82 J	1.1 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100604-DCR-276***	***GW-17360-120204-DCR-311***	***GW-17360-040605-DCR-361***	***GW-17360-062905-DCR-406***	***GW-17360-120605-DCR-581***
Sample Date:		***10/6/2004***	***12/2/2004***	***4/6/2005***	***6/29/2005***	***12/6/2005***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-091306-DR-044***	***GW-17360-051007-JY-086***	***GW-17360-051007-JY-087***	***GW-17360-101607-DR-128***	***GW-17360-042308-DR-176***
Sample Date:		***9/13/2006***	***5/10/2007***	***5/10/2007***	***10/16/2007***	***4/23/2008***
Sample Type:				***Duplicate***		
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	0.79 J	50 U
Acetone	ug/L	25 U	25 UJ	25 UJ	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	0.34 J	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.50 J	0.81 J	0.85 J	0.67 J	0.47 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	0.23 J	0.23 J	0.32 J	0.17 J
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.68 J	0.53 J	0.47 J	1.0 U	0.60 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-091306-DR-044***	***GW-17360-051007-JY-086***	***GW-17360-051007-JY-087***	***GW-17360-101607-DR-128***	***GW-17360-042308-DR-176***
Sample Date:		***9/13/2006***	***5/10/2007***	***5/10/2007***	***10/16/2007***	***4/23/2008***
Sample Type:				***Duplicate***		
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	0.72 J	0.53 J	0.47 J	0.56 J	0.78 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-091306-DR-044***	***GW-17360-051007-JY-086***	***GW-17360-051007-JY-087***	***GW-17360-101607-DR-128***	***GW-17360-042308-DR-176***
Sample Date:		***9/13/2006***	***5/10/2007***	***5/10/2007***	***10/16/2007***	***4/23/2008***
Sample Type:				***Duplicate***		
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 UJ	10 UJ	10 U	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	1.2 J	1.2 J	1.2 J	1.3 J	0.82 J
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	0.52 J	0.58 J	0.55 J	0.33 J
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	0.93 J	0.91 J	0.86 J	1.1 J	0.66 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-091306-DR-044***	***GW-17360-051007-JY-086***	***GW-17360-051007-JY-087***	***GW-17360-101607-DR-128***	***GW-17360-042308-DR-176***
Sample Date:		***9/13/2006***	***5/10/2007***	***5/10/2007***	***10/16/2007***	***4/23/2008***
Sample Type:				***Duplicate***		
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100808-DR-221***	***GW-17360-040809-DR-272***	***GW-17360-100709-DR-292***	***GW-17360-101210-BW-082***	***GW-17360-021411-JY-038***
Sample Date:		***10/8/2008***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/14/2011***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	2.2 J	0.80 J	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	0.64 J	50 U	50 U	50 U
Acetone	ug/L	25 U	14 J	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 UJ	5.0 U	5.0 U	0.68 J	0.42 J
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.46 J	1.9	1.5	0.41 J	0.50 J
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 UJ	1.0 U	0.20 J	1.0 U	1.0 U
Isopropyl benzene	ug/L	0.17 J	0.31 J	0.42 J	5.0 U	0.22 J
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	0.73 J	5.0 U	1.6 J	0.62 J	0.26 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0	1.0 U	1.0 U	1.0 U	1.1

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100808-DR-221***	***GW-17360-040809-DR-272***	***GW-17360-100709-DR-292***	***GW-17360-101210-BW-082***	***GW-17360-021411-JY-038***
Sample Date:		***10/8/2008***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/14/2011***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.82 J	0.63 J	1.0 U	0.51 J	0.45 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 UJ	2.0 U	1.4 J	2.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	20 U	20 U	5.0 U	--
2,4,5-Trichlorophenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
2,4,6-Trichlorophenol	ug/L	4.0 U	16 U	16 U	4.0 U	--
2,4-Dichlorophenol	ug/L	10 U	40 U	40 U	10 U	--
2,4-Dimethylphenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
2,4-Dinitrophenol	ug/L	20 U	80 U	80 U	20 U	--
2,4-Dinitrotoluene	ug/L	5.0 U	20 U	20 U	5.0 U	--
2,6-Dinitrotoluene	ug/L	5.0 U	20 U	20 U	5.0 U	--
2-Chloronaphthalene	ug/L	5.0 U	20 U	20 U	5.0 U	--
2-Chlorophenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
2-Methylnaphthalene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
2-Nitroaniline	ug/L	20 U	80 U	80 U	20 U	--
2-Nitrophenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	16 U	16 U	4.0 U	--
3-Nitroaniline	ug/L	20 U	80 U	80 U	20 U	--
4,6-Dinitro-2-methylphenol	ug/L	20 U	80 U	80 U	20 U	--
4-Bromophenyl phenyl ether	ug/L	5.0 U	20 U	20 U	5.0 U	--
4-Chloro-3-methylphenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
4-Chloroaniline	ug/L	20 U	80 U	80 U	20 U	--
4-Chlorophenyl phenyl ether	ug/L	5.0 U	20 U	20 U	5.0 U	--
4-Methylphenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
4-Nitroaniline	ug/L	20 U	80 U	80 U	20 U	--
4-Nitrophenol	ug/L	20 U	80 U	80 U	20 U	--
Acenaphthene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*85-5B*	*85-5B*	*85-5B*	*85-5B*	*85-5B*
Sample Identification:		*GW-17360-100808-DR-221*	*GW-17360-040809-DR-272*	*GW-17360-100709-DR-292*	*GW-17360-101210-BW-082*	*GW-17360-021411-JY-038*
Sample Date:		*10/8/2008*	*4/8/2009*	*10/7/2009*	*10/12/2010*	*2/14/2011*
Sample Type:						
Segment Depth:		*(21.9-31.9) ft BGS*	*(21.9-31.9) ft BGS*	*(21.9-31.9) ft BGS*	*(21.9-31.9) ft BGS*	*(21.9-31.9) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	20 U	20 U	5.0 U	--
Anthracene	ug/L	5.0 U	20 U	0.89 J	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	20 U	20 U	5.0 U	--
Benzaldehyde	ug/L	10 U	40 U	40 U	10 U	--
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	4.0 U	**3.7 J[a]**	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	8.0 U	**3.8 J[f]**	2.0 U	1.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	8.0 U	**3.8 J[abf]**	2.0 U	1.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	20 U	**3.2 J[abf]**	5.0 U	1.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	20 U	**2.8 J[abf]**	5.0 U	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	40 U	40 U	10 U	--
bis(2-Chloroethoxy)methane	ug/L	5.0 U	20 U	20 U	5.0 U	--
bis(2-Chloroethyl)ether	ug/L	4.0 U	16 U	16 U	4.0 U	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	20 U	20 U	5.0 U	--
Butyl benzylphthalate (BBP)	ug/L	5.0 U	20 U	20 U	5.0 U	--
Caprolactam	ug/L	10 UJ	40 U	40 U	10 U	--
Carbazole	ug/L	10 U	40 U	1.8 J	10 U	--
Chrysene	ug/L	5.0 U	20 U	**4.1 J[abf]**	5.0 U	1.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	8.0 U	8.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	20 U	20 U	5.0 U	--
Diethyl phthalate	ug/L	5.0 U	20 U	20 U	5.0 U	--
Dimethyl phthalate	ug/L	5.0 U	20 U	20 U	5.0 U	--
Di-n-butylphthalate (DBP)	ug/L	5.0 U	20 U	20 U	5.0 U	--
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	20 U	20 U	5.0 U	--
Fluoranthene	ug/L	1.1 J	0.91 J	**10 J[c]**	5.0 U	0.85 J
Fluorene	ug/L	5.0 U	20 U	20 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	20 U	20 U	5.0 U	--
Hexachlorobutadiene	ug/L	5.0 U	20 U	20 U	5.0 U	--
Hexachlorocyclopentadiene	ug/L	5.0 U	20 U	20 U	5.0 U	--
Hexachloroethane	ug/L	5.0 U	20 U	20 U	5.0 U	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	8.0 U	**2.5 J[abf]**	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	20 U	20 U	5.0 U	--
Naphthalene	ug/L	5.0 U	20 U	20 U	0.32 J	5.0 U
Nitrobenzene	ug/L	4.0 U	16 U	16 U	4.0 U	--
N-Nitrosodi-n-propylamine	ug/L	5.0 U	20 U	20 U	5.0 U	--
N-Nitrosodiphenylamine	ug/L	5.0 U	20 U	20 U	5.0 U	--
Pentachlorophenol	ug/L	20 U	80 U	80 U	20 U	--
Phenanthrene	ug/L	0.38 J	20 U	**6.3 J[c]**	5.0 U	2.0 U
Phenol	ug/L	5.0 U	20 U	20 U	5.0 U	--
Pyrene	ug/L	0.88 J	20 U	7.2 J	5.0 U	0.72 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-5B***	***85-5B***	***85-5B***	***85-5B***
Sample Identification:		***GW-17360-100808-DR-221***	***GW-17360-040809-DR-272***	***GW-17360-100709-DR-292***	***GW-17360-101210-BW-082***	***GW-17360-021411-JY-038***
Sample Date:		***10/8/2008***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/14/2011***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***	***(21.9-31.9) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-092911-EM-044***	***85-6~120685***	***85-6~050586***	***GW-17360-100703-JB-099***	***GW-17360-121703-JB-101***
Sample Date:		***9/29/2011***	***12/6/1985***	***5/5/1986***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	2 U	2 U	0.51 J	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	2 U	2 U	1.0 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	3 U	3 U	1.0 U	--
1,1-Dichloroethane	ug/L	1.0 U	2 U	2 U	1.0 U	--
1,1-Dichloroethene	ug/L	1.0 U	2 U	2 U	1.0 U	--
1,2,4-Trichlorobenzene	ug/L	1.0 U	--	--	5.0 UJ	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	--	--	1.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	--	1.0 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	1.0 U	--
1,2-Dichloroethane	ug/L	1.0 U	2 U	2 U	1.0 U	--
1,2-Dichloropropane	ug/L	1.0 U	3 U	3 U	1.0 U	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	1.0 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	1.0 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	--	--	25 UJ	--
2-Chloroethyl vinyl ether	ug/L	--	10 U	10 U	--	--
2-Hexanone	ug/L	10 U	--	--	50 UJ	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	--	--	50 UJ	--
Acetone	ug/L	10 U	--	--	25 UJ	--
Benzene	ug/L	1.0 U	1 U	1 U	1.0 U	--
Bromodichloromethane	ug/L	1.0 U	2 U	2 U	1.0 U	--
Bromoform	ug/L	1.0 UJ	15 U	15 U	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	10 U	10 U	1.0 U	--
Carbon disulfide	ug/L	5.0 UJ	--	--	5.0 U	--
Carbon tetrachloride	ug/L	1.0 U	4 U	4 U	1.0 U	--
Chlorobenzene	ug/L	1.0 U	1 U	1 U	1.0 U	--
Chloroethane	ug/L	1.0 U	10 U	10 U	1.0 U	--
Chloroform (Trichloromethane)	ug/L	1.0 U	1 U	1 U	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	10 U	10 U	1.0 U	--
cis-1,2-Dichloroethene	ug/L	0.76 J	--	--	1.0 U	--
cis-1,3-Dichloropropene	ug/L	1.0 U	4 U	4 U	1.0 U	--
Cyclohexane	ug/L	1.0 U	--	--	1.0 U	--
Dibromochloromethane	ug/L	1.0 UJ	3 U	3 U	1.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--	--	1.0 U	--
Ethylbenzene	ug/L	1.0 U	1 U	1 U	1.0 U	--
Isopropyl benzene	ug/L	0.42 J	--	--	5.0 U	--
Methyl acetate	ug/L	10 U	--	--	10 U	--
Methyl cyclohexane	ug/L	1.0 U	--	--	1.0 U	--
Methyl tert butyl ether (MTBE)	ug/L	0.30 J	--	--	5.0 U	--
Methylene chloride	ug/L	5.0 U	2 U	2 U	5.0 U	--
Styrene	ug/L	1.0 U	--	--	1.0 U	--
Tetrachloroethene	ug/L	0.96 J	4	**7[ab]**	**5.3[ab]**	--

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-092911-EM-044***	***85-6~120685***	***85-6~050586***	***GW-17360-100703-JB-099***	***GW-17360-121703-JB-101***
Sample Date:		***9/29/2011***	***12/6/1985***	***5/5/1986***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1 U	1 U	1.0 U	--
trans-1,2-Dichloroethene	ug/L	1.0 U	2 U	2 U	1.0 U	--
trans-1,3-Dichloropropene	ug/L	1.0 UJ	4 U	4 U	1.0 U	--
Trichloroethene	ug/L	0.43 J	2 U	2 U	1.3	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	3 U	3 U	1.0 U	--
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	--	--	1.0 U	--
Vinyl chloride	ug/L	1.0 U	10 U	--	1.0 U	--
Xylenes (total)	ug/L	2.0 U	--	--	3.0 U	--
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	3 U	--	--	--
1,2-Dichlorobenzene	ug/L	--	3 U	--	--	--
1,2-Diphenylhydrazine	ug/L	--	1 U	--	--	--
1,3-Dichlorobenzene	ug/L	--	3 U	--	--	--
1,4-Dichlorobenzene	ug/L	--	3 U	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	9.6 U	1 U	--	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	7.7 U	--	--	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	19 U	--	--	10 U	10 U
2,4-Dimethylphenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	38 U	--	--	20 UJ	20 U
2,4-Dinitrotoluene	ug/L	9.6 U	10 U	--	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	9.6 U	9 U	--	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
2-Chlorophenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	9.6 U	--	--	5.0 U	5.0 U
2-Methylphenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
2-Nitroaniline	ug/L	38 U	--	--	20 U	20 U
2-Nitrophenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
3&4-Methylphenol	ug/L	9.6 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	1.9 U	20 U	--	4.0 U	4.0 U
3-Nitroaniline	ug/L	38 U	--	--	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	38 U	--	--	20 UJ	20 U
4-Bromophenyl phenyl ether	ug/L	9.6 U	7 U	--	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	9.6 U	--	--	5.0 U	5.0 U
4-Chloroaniline	ug/L	19 U	--	--	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	9.6 U	3 U	--	5.0 U	5.0 U
4-Methylphenol	ug/L	--	--	--	5.0 U	5.0 U
4-Nitroaniline	ug/L	38 U	--	--	20 U	20 U
4-Nitrophenol	ug/L	38 U	--	--	20 U	20 UJ
Acenaphthene	ug/L	9.6 U	2 U	--	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-092911-EM-044***	***85-6~120685***	***85-6~050586***	***GW-17360-100703-JB-099***	***GW-17360-121703-JB-101***
Sample Date:		***9/29/2011***	***12/6/1985***	***5/5/1986***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	9.6 U	1 U	--	5.0 U	5.0 U
Acetophenone	ug/L	9.6 U	--	--	5.0 U	5.0 U
Anthracene	ug/L	9.6 U	1 U	--	5.0 U	5.0 U
Atrazine	ug/L	5.8 U	--	--	5.0 U	5.0 U
Benzaldehyde	ug/L	9.6 U	--	--	10 U	10 U
Benzidine	ug/L	--	50 U	--	--	--
Benzo(a)anthracene	ug/L	1.9 U	5 U	--	4.0 U	4.0 U
Benzo(a)pyrene	ug/L	1.9 U	5 U	--	4.0 U	4.0 U
Benzo(b)fluoranthene	ug/L	1.9 U	--	--	4.0 U	4.0 U
Benzo(g,h,i)perylene	ug/L	1.9 U	10 U	--	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	1.9 U	5 U	--	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	9.6 U	--	--	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	9.6 U	4 U	--	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	1.9 U	4 U	--	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	9.6 U	2 U	--	0.50 J	0.79 J
Butyl benzylphthalate (BBP)	ug/L	9.6 U	3 U	--	5.0 U	5.0 U
Caprolactam	ug/L	19 U	--	--	34	10 U
Carbazole	ug/L	19 U	--	--	10 U	10 U
Chrysene	ug/L	1.9 U	5 U	--	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	3.8 U	10 U	--	4.0 U	4.0 U
Dibenzofuran	ug/L	7.7 U	--	--	5.0 U	5.0 U
Diethyl phthalate	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
Dimethyl phthalate	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	9.6 U	1 U	--	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
Fluoranthene	ug/L	0.70 J	1 U	--	5.0 U	5.0 U
Fluorene	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
Hexachlorobenzene	ug/L	0.38 U	5 U	--	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	1.9 U	5 U	--	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	9.6 U	5 U	--	5.0 U	5.0 U
Hexachloroethane	ug/L	9.6 U	7 U	--	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	3.8 U	10 U	--	4.0 U	4.0 U
Isophorone	ug/L	9.6 U	2 U	--	5.0 U	5.0 U
Naphthalene	ug/L	9.6 U	1 U	--	5.0 U	5.0 U
Nitrobenzene	ug/L	5.8 U	4 U	--	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	9.6 U	4 U	--	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	9.6 U	3 U	--	5.0 U	5.0 U
Pentachlorophenol	ug/L	9.6 U	--	--	20 U	20 U
Phenanthrene	ug/L	3.8 U	1 U	--	5.0 U	5.0 U
Phenol	ug/L	9.6 U	--	--	5.0 U	9.0
Pyrene	ug/L	0.79 J	1 U	--	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-5B***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-092911-EM-044***	***85-6~120685***	***85-6~050586***	***GW-17360-100703-JB-099***	***GW-17360-121703-JB-101***
Sample Date:		***9/29/2011***	***12/6/1985***	***5/5/1986***	***10/7/2003***	***12/18/2003***
Sample Type:						
Segment Depth:		***(21.9-31.9) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-031704-JB-152***	***GW-17360-081004-DCR-202***	***GW-17360-081004-DCR-203***	***GW-17360-100604-DCR-266***	***GW-17360-120304-DCR-322***
Sample Date:		***3/17/2004***	***8/10/2004***	***8/10/2004***	***10/6/2004***	***12/3/2004***
Sample Type:				***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.34 J
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	0.68 J	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.27 J	0.28 J	0.31 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.8	1.5	1.5	2.0	2.4

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-031704-JB-152***	***GW-17360-081004-DCR-202***	***GW-17360-081004-DCR-203***	***GW-17360-100604-DCR-266***	***GW-17360-120304-DCR-322***
Sample Date:		***3/17/2004***	***8/10/2004***	***8/10/2004***	***10/6/2004***	***12/3/2004***
Sample Type:				***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.29 J
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	25 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	50 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	50 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	50 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	50 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	50 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	50 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	50 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*85-6*	*85-6*	*85-6*	*85-6*	*85-6*
Sample Identification:		*GW-17360-031704-JB-152*	*GW-17360-081004-DCR-202*	*GW-17360-081004-DCR-203*	*GW-17360-100604-DCR-266*	*GW-17360-120304-DCR-322*
Sample Date:		*3/17/2004*	*8/10/2004*	*8/10/2004*	*10/6/2004*	*12/3/2004*
Sample Type:				*Duplicate*		
Segment Depth:		*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	25 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(a)pyrene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(b)fluoranthene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(g,h,i)perylene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	25 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	12 U	**8.6**[ab]	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	26	10 U	10 U	10 U	10 U
Carbazole	ug/L	25 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
Dibenzofuran	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
Isophorone	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	10 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	50 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	12 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-031704-JB-152***	***GW-17360-081004-DCR-202***	***GW-17360-081004-DCR-203***	***GW-17360-100604-DCR-266***	***GW-17360-120304-DCR-322***
Sample Date:		***3/17/2004***	***8/10/2004***	***8/10/2004***	***10/6/2004***	***12/3/2004***
Sample Type:				***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-040705-DCR-367***	***GW-17360-062905-DCR-400***	***GW-17360-120405-DCR-559***	***GW-17360-091306-DR-041***	***GW-17360-050907-JY-079***
Sample Date:		***4/7/2005***	***6/29/2005***	***12/4/2005***	***9/13/2006***	***5/9/2007***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	0.57 J	0.48 J	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 UJ	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 UJ	25 UJ	25 U	25 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.37 J	0.30 J	0.38 J	0.21 J	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	0.37 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	0.20 J	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.2	1.4	**5.2 J[ab]**	4.9 J	1.7

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-040705-DCR-367***	***GW-17360-062905-DCR-400***	***GW-17360-120405-DCR-559***	***GW-17360-091306-DR-041***	***GW-17360-050907-JY-079***
Sample Date:		***4/7/2005***	***6/29/2005***	***12/4/2005***	***9/13/2006***	***5/9/2007***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	2.1	1.6	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 UJ
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-040705-DCR-367***	***GW-17360-062905-DCR-400***	***GW-17360-120405-DCR-559***	***GW-17360-091306-DR-041***	***GW-17360-050907-JY-079***
Sample Date:		***4/7/2005***	***6/29/2005***	***12/4/2005***	***9/13/2006***	***5/9/2007***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
SVOCs (continued)	***Units***					
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 UJ	4.0 U	4.0 UJ	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	3.5 J	10 U	10 UJ
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	R	R	R	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-040705-DCR-367***	***GW-17360-062905-DCR-400***	***GW-17360-120405-DCR-559***	***GW-17360-091306-DR-041***	***GW-17360-050907-JY-079***
Sample Date:		***4/7/2005***	***6/29/2005***	***12/4/2005***	***9/13/2006***	***5/9/2007***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-101607-DR-122***	***GW-17360-042308-DR-177***	***GW-17360-100808-DR-225***	***GW-17360-040809-DR-273***	***GW-17360-100609-DR-290***
Sample Date:		***10/16/2007***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/6/2009***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.16 J	1.0 UJ	1.0 U	1.0 U	0.17 J
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 UJ	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	0.25 J	0.44 J	2.0 J	1.2 J
Methylene chloride	ug/L	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Tetrachloroethene	ug/L	3.9	4.1	2.1	1.0	1.3

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-101607-DR-122***	***GW-17360-042308-DR-177***	***GW-17360-100808-DR-225***	***GW-17360-040809-DR-273***	***GW-17360-100609-DR-290***
Sample Date:		***10/16/2007***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/6/2009***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.1	0.48 J	0.38 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Vinyl chloride	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 UJ	2.0 UJ	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-101607-DR-122***	***GW-17360-042308-DR-177***	***GW-17360-100808-DR-225***	***GW-17360-040809-DR-273***	***GW-17360-100609-DR-290***
Sample Date:		***10/16/2007***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/6/2009***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
SVOCs (continued)	***Units***					
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	0.96 J	1.3 J
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	10 UJ	10 U	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-101607-DR-122***	***GW-17360-042308-DR-177***	***GW-17360-100808-DR-225***	***GW-17360-040809-DR-273***	***GW-17360-100609-DR-290***
Sample Date:		***10/16/2007***	***4/23/2008***	***10/8/2008***	***4/8/2009***	***10/6/2009***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-100609-DR-291***	***GW-17360-101310-BW-087***	***GW-17360-101310-BW-088***	***GW-17360-021111-DR-030***	***GW-17360-092211-EM-022***
Sample Date:		***10/6/2009***	***10/13/2010***	***10/13/2010***	***2/11/2011***	***9/22/2011***
Sample Type:		***Duplicate***		***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 UJ	25 UJ	25 U	10 UJ
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 UJ	50 UJ	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 UJ	50 UJ	50 U	10 U
Acetone	ug/L	25 U	25 UJ	25 UJ	25 U	10 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.18 J	0.32 J	0.28 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 UJ	10 UJ	10 UJ	10 U	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.3 J	5.0 UJ	5.0 UJ	5.0 U	0.32 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.3	2.7	2.6	3.9	1.3

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-100609-DR-291***	***GW-17360-101310-BW-087***	***GW-17360-101310-BW-088***	***GW-17360-021111-DR-030***	***GW-17360-092211-EM-022***
Sample Date:		***10/6/2009***	***10/13/2010***	***10/13/2010***	***2/11/2011***	***9/22/2011***
Sample Type:		***Duplicate***		***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.56 J	0.60 J	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	--	3.8 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	--	9.6 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	--	19 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	--	19 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
3&4-Methylphenol	ug/L	--	--	--	--	4.8 U
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	--	0.96 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	--	19 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	--	19 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	--	9.6 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	--	--
4-Nitroaniline	ug/L	20 U	20 U	20 U	--	19 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	--	19 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-100609-DR-291***	***GW-17360-101310-BW-087***	***GW-17360-101310-BW-088***	***GW-17360-021111-DR-030***	***GW-17360-092211-EM-022***
Sample Date:		***10/6/2009***	***10/13/2010***	***10/13/2010***	***2/11/2011***	***9/22/2011***
Sample Type:		***Duplicate***		***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	--	2.9 U
Benzaldehyde	ug/L	10 U	10 U	10 U	--	4.8 UJ
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	R	0.96 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	1.0 U	0.96 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	1.0 U	0.96 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	0.96 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	0.96 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	--	4.8 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	--	0.96 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	1.6 J	5.0 U	5.0 U	--	4.8 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	1.0 J	5.0 U	--	4.8 U
Caprolactam	ug/L	10 U	10 U	10 U	--	9.6 U
Carbazole	ug/L	10 U	10 U	10 U	--	9.6 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	R	0.96 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	--	3.8 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	1.0 U	0.96 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	--	0.19 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	--	0.96 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	R	1.9 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	4.8 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	--	2.9 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	--	4.8 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	2.0 U	1.9 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	--	4.8 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	R	4.8 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-100609-DR-291***	***GW-17360-101310-BW-087***	***GW-17360-101310-BW-088***	***GW-17360-021111-DR-030***	***GW-17360-092211-EM-022***
Sample Date:		***10/6/2009***	***10/13/2010***	***10/13/2010***	***2/11/2011***	***9/22/2011***
Sample Type:		***Duplicate***		***Duplicate***		
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*85-6*	*85-6*	*85-6*	*85-6*	*85-6*
Sample Identification:		*GW-17360-102912-DD-036*	*GW-17360-050713-BW-053*	*WG-17360-110513-EB-062*	*WG-017360-041714-MR-027*	*WG-017360-100914-MR-022*
Sample Date:		*10/29/2012*	*5/7/2013*	*11/5/2013*	*4/17/2014*	*10/9/2014*
Sample Type:						
Segment Depth:		*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*	*(19.5-24.5) ft BGS*
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	5.0 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	4.2	**5.2[ab]**	**7.1[ab]**	**5.6[ab]**	**8.2[ab]**

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-102912-DD-036***	***GW-17360-050713-BW-053***	***WG-17360-110513-EB-062***	***WG-017360-041714-MR-027***	***WG-017360-100914-MR-022***
Sample Date:		***10/29/2012***	***5/7/2013***	***11/5/2013***	***4/17/2014***	***10/9/2014***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.2	1.0 U	1.5	1.2	1.7
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2,4,5-Trichlorophenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2,4,6-Trichlorophenol	ug/L	0.50 U	4.0 U	5.0 U	5.0 U	5.3 U
2,4-Dichlorophenol	ug/L	0.50 U	10 U	10 U	10 U	11 U
2,4-Dimethylphenol	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.3 U
2,4-Dinitrotoluene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2,6-Dinitrotoluene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2-Chloronaphthalene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2-Chlorophenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2-Methylnaphthalene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2-Methylphenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
2-Nitroaniline	ug/L	0.50 U	20 U	20 U	20 U	21 U
2-Nitrophenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	1.0 UJ	1.0 U	5.0 U	5.0 U	5.3 U
3-Nitroaniline	ug/L	1.0 UJ	20 U	20 U	20 U	21 U
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	20 U	20 U	20 U	21 U
4-Bromophenyl phenyl ether	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
4-Chloro-3-methylphenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
4-Chloroaniline	ug/L	1.0 UJ	10 U	20 U	20 U	21 U
4-Chlorophenyl phenyl ether	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
4-Methylphenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
4-Nitroaniline	ug/L	1.0 U	20 U	20 U	20 U	21 U
4-Nitrophenol	ug/L	5.0 U	20 U	20 U	20 U	21 U
Acenaphthene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-102912-DD-036***	***GW-17360-050713-BW-053***	***WG-17360-110513-EB-062***	***WG-017360-041714-MR-027***	***WG-017360-100914-MR-022***
Sample Date:		***10/29/2012***	***5/7/2013***	***11/5/2013***	***4/17/2014***	***10/9/2014***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Acetophenone	ug/L	0.50 UJ	1.0 U	1.0 U	1.0 U	1.1 U
Anthracene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Atrazine	ug/L	0.50 U	3.0 U	1.0 U	1.0 U	1.1 U
Benzaldehyde	ug/L	R	1.0 U	1.0 U	1.0 U	1.1 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Benzo(a)pyrene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Benzo(b)fluoranthene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Benzo(g,h,i)perylene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Benzo(k)fluoranthene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Biphenyl (1,1-Biphenyl)	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
bis(2-Chloroethoxy)methane	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
bis(2-Chloroethyl)ether	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.94	5.0 U	5.0 U	5.0 U	5.3 U
Butyl benzylphthalate (BBP)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U
Caprolactam	ug/L	1.0 U	10 U	10 U	10 U	11 U
Carbazole	ug/L	0.50 U	10 U	10 U	10 U	11 U
Chrysene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Dibenz(a,h)anthracene	ug/L	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U
Dibenzofuran	ug/L	0.50 U	4.0 U	5.0 U	5.0 U	5.3 U
Diethyl phthalate	ug/L	0.66	5.0 U	20 U	20 U	21 U
Dimethyl phthalate	ug/L	0.50 U	5.0 U	20 U	20 U	21 U
Di-n-butylphthalate (DBP)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.3 U
Di-n-octyl phthalate (DnOP)	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Fluoranthene	ug/L	0.56	1.0 U	5.0 U	5.0 U	5.3 U
Fluorene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Hexachlorobenzene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Hexachlorobutadiene	ug/L	0.50 U	1.0 U	5.0 U	5.0 U	5.3 U
Hexachlorocyclopentadiene	ug/L	0.50 U	5.0 UJ	20 U	20 U	21 U
Hexachloroethane	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Indeno(1,2,3-cd)pyrene	ug/L	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U
Isophorone	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Naphthalene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Nitrobenzene	ug/L	0.50 U	3.0 U	5.0 U	5.0 U	5.3 U
N-Nitrosodi-n-propylamine	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
N-Nitrosodiphenylamine	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Pentachlorophenol	ug/L	0.50 U	1.0 U	20 U	20 U	21 U
Phenanthrene	ug/L	0.50 U	2.0 U	5.0 U	5.0 U	5.3 U
Phenol	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U
Pyrene	ug/L	0.50 U	5.0 U	5.0 U	5.0 U	5.3 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***85-6***	***85-6***	***85-6***	***85-6***
Sample Identification:		***GW-17360-102912-DD-036***	***GW-17360-050713-BW-053***	***WG-17360-110513-EB-062***	***WG-017360-041714-MR-027***	***WG-017360-100914-MR-022***
Sample Date:		***10/29/2012***	***5/7/2013***	***11/5/2013***	***4/17/2014***	***10/9/2014***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***	***(19.5-24.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***WG-017360-040915-MR-023***	***86-1~050586***	***GW-17360-100703-JB-098***	***GW-17360-121703-JB-099***	***GW-17360-031704-JB-150***
Sample Date:		***4/9/2015***	***5/5/1986***	***10/7/2003***	***12/18/2003***	***3/17/2004***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	2 U	1.0 U	--	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	3 U	1.0 U	--	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	5.0 UJ	--	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	1.0 U	--	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	1.0 U	--	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	--	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	3 U	1.0 U	--	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	--	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	--	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	--	25 UJ	--	25 U
2-Chloroethyl vinyl ether	ug/L	--	10 U	--	--	--
2-Hexanone	ug/L	50 U	--	50 UJ	--	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	--	50 UJ	--	50 U
Acetone	ug/L	50 U	--	25 UJ	--	25 U
Benzene	ug/L	1.0 U	1 U	1.0 U	--	1.0 U
Bromodichloromethane	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
Bromoform	ug/L	1.0 U	15 U	1.0 U	--	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	10 U	1.0 U	--	1.0 U
Carbon disulfide	ug/L	5.0 U	--	5.0 U	--	5.0 U
Carbon tetrachloride	ug/L	1.0 U	4 U	1.0 U	--	1.0 U
Chlorobenzene	ug/L	1.0 U	1 U	1.0 U	--	1.0 U
Chloroethane	ug/L	5.0 U	10 U	1.0 U	--	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1 U	1.0 U	--	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	10 U	1.0 U	--	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	--	1.0 U	--	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	4 U	1.0 U	--	1.0 U
Cyclohexane	ug/L	1.0 U	--	1.0 U	--	1.0 U
Dibromochloromethane	ug/L	5.0 U	3 U	1.0 U	--	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	--	1.0 U	--	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1 U	1.0 U	--	1.0 U
Isopropyl benzene	ug/L	5.0 U	--	5.0 U	--	5.0 U
Methyl acetate	ug/L	10 U	--	10 U	--	10 U
Methyl cyclohexane	ug/L	1.0 U	--	1.0 U	--	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	--	5.0 U	--	0.38 J
Methylene chloride	ug/L	5.0 U	2 U	5.0 U	--	5.0 U
Styrene	ug/L	1.0 U	--	1.0 U	--	1.0 U
Tetrachloroethene	ug/L	**8.9**[ab]	2 U	1.0 U	--	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***WG-017360-040915-MR-023***	***86-1~050586***	***GW-17360-100703-JB-098***	***GW-17360-121703-JB-099***	***GW-17360-031704-JB-150***
Sample Date:		***4/9/2015***	***5/5/1986***	***10/7/2003***	***12/18/2003***	***3/17/2004***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1 U	1.0 U	--	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	2 U	1.0 U	--	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	4 U	1.0 U	--	1.0 U
Trichloroethene	ug/L	2.3	2 U	1.0 U	--	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	3 U	1.0 U	--	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	--	1.0 U	--	1.0 U
Vinyl chloride	ug/L	1.0 U	10 U	1.0 U	--	1.0 U
Xylenes (total)	ug/L	3.0 U	--	3.0 U	--	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2,4,5-Trichlorophenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2,4,6-Trichlorophenol	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
2,4-Dichlorophenol	ug/L	5.0 U	--	10 U	10 U	25 U
2,4-Dimethylphenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2,4-Dinitrophenol	ug/L	5.0 U	--	20 UJ	20 U	50 U
2,4-Dinitrotoluene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2,6-Dinitrotoluene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2-Chloronaphthalene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2-Chlorophenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2-Methylnaphthalene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2-Methylphenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
2-Nitroaniline	ug/L	5.0 U	--	20 U	20 U	50 U
2-Nitrophenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
3&4-Methylphenol	ug/L	5.0 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
3-Nitroaniline	ug/L	5.0 U	--	20 U	20 U	50 U
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	--	20 UJ	20 U	50 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
4-Chloro-3-methylphenol	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
4-Chloroaniline	ug/L	5.0 U	--	20 U	20 U	50 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
4-Methylphenol	ug/L	--	--	5.0 U	5.0 U	12 U
4-Nitroaniline	ug/L	5.0 U	--	20 U	20 U	50 U
4-Nitrophenol	ug/L	5.0 U	--	20 U	20 U	50 U
Acenaphthene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***WG-017360-040915-MR-023***	***86-1~050586***	***GW-17360-100703-JB-098***	***GW-17360-121703-JB-099***	***GW-17360-031704-JB-150***
Sample Date:		***4/9/2015***	***5/5/1986***	***10/7/2003***	***12/18/2003***	***3/17/2004***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Acetophenone	ug/L	1.0 U	--	5.0 U	5.0 U	12 U
Anthracene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Atrazine	ug/L	1.0 U	--	5.0 U	5.0 U	12 U
Benzaldehyde	ug/L	1.0 U	--	10 U	10 U	25 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
Benzo(a)pyrene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
Benzo(b)fluoranthene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
Benzo(g,h,i)perylene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Benzo(k)fluoranthene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	--	10 U	10 U	25 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	--	5.0	0.97 J	12 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Caprolactam	ug/L	10 U	--	12	10 U	47
Carbazole	ug/L	5.0 U	--	10 U	10 U	25 U
Chrysene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Dibenz(a,h)anthracene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
Dibenzofuran	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Diethyl phthalate	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Dimethyl phthalate	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Fluoranthene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Fluorene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Hexachlorobenzene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Hexachlorobutadiene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Hexachlorocyclopentadiene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Hexachloroethane	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
Isophorone	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Naphthalene	ug/L	0.14 J	--	5.0 U	5.0 U	12 U
Nitrobenzene	ug/L	5.0 U	--	4.0 U	4.0 U	10 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
N-Nitrosodiphenylamine	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Pentachlorophenol	ug/L	5.0 U	--	20 U	20 U	50 U
Phenanthrene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U
Phenol	ug/L	5.0 U	--	1.6 J	1.3 J	12 U
Pyrene	ug/L	5.0 U	--	5.0 U	5.0 U	12 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***85-6***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***WG-017360-040915-MR-023***	***86-1~050586***	***GW-17360-100703-JB-098***	***GW-17360-121703-JB-099***	***GW-17360-031704-JB-150***
Sample Date:		***4/9/2015***	***5/5/1986***	***10/7/2003***	***12/18/2003***	***3/17/2004***
Sample Type:						
Segment Depth:		***(19.5-24.5) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-031704-JB-151***	***GW-17360-080904-DCR-197***	***GW-17360-100604-DCR-267***	***GW-17360-120204-DCR-316***	***GW-17360-120204-DCR-317***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***12/2/2004***
Sample Type:		***Duplicate***				***Duplicate***
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	0.37 J	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-031704-JB-151***	***GW-17360-080904-DCR-197***	***GW-17360-100604-DCR-267***	***GW-17360-120204-DCR-316***	***GW-17360-120204-DCR-317***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***12/2/2004***
Sample Type:		***Duplicate***				***Duplicate***
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-031704-JB-151***	***GW-17360-080904-DCR-197***	***GW-17360-100604-DCR-267***	***GW-17360-120204-DCR-316***	***GW-17360-120204-DCR-317***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***12/2/2004***
Sample Type:		***Duplicate***				***Duplicate***
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(a)pyrene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(b)fluoranthene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	32	10 U	10 U	10 U	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-031704-JB-151***	***GW-17360-080904-DCR-197***	***GW-17360-100604-DCR-267***	***GW-17360-120204-DCR-316***	***GW-17360-120204-DCR-317***
Sample Date:		***3/17/2004***	***8/9/2004***	***10/6/2004***	***12/2/2004***	***12/2/2004***
Sample Type:		***Duplicate***				***Duplicate***
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040605-DCR-354***	***GW-17360-040605-DCR-355***	***GW-17360-062805-DCR-387***	***GW-17360-120505-DCR-563***	***GW-17360-091306-JY-042***
Sample Date:		***4/6/2005***	***4/6/2005***	***6/28/2005***	***12/5/2005***	***9/13/2006***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 UJ	50 UJ	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 UJ	50 UJ	50 UJ	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 UJ	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	0.24 J	1.0 U	0.22 J	1.0 UJ

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040605-DCR-354***	***GW-17360-040605-DCR-355***	***GW-17360-062805-DCR-387***	***GW-17360-120505-DCR-563***	***GW-17360-091306-JY-042***
Sample Date:		***4/6/2005***	***4/6/2005***	***6/28/2005***	***12/5/2005***	***9/13/2006***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040605-DCR-354***	***GW-17360-040605-DCR-355***	***GW-17360-062805-DCR-387***	***GW-17360-120505-DCR-563***	***GW-17360-091306-JY-042***
Sample Date:		***4/6/2005***	***4/6/2005***	***6/28/2005***	***12/5/2005***	***9/13/2006***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 UJ	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	10 U	1.8 J	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	R	R	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040605-DCR-354***	***GW-17360-040605-DCR-355***	***GW-17360-062805-DCR-387***	***GW-17360-120505-DCR-563***	***GW-17360-091306-JY-042***
Sample Date:		***4/6/2005***	***4/6/2005***	***6/28/2005***	***12/5/2005***	***9/13/2006***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-091306-JY-043***	***GW-17360-051007-JY-085***	***GW-17360-101607-DR-126***	***GW-17360-042308-DR-174***	***GW-17360-100808-DR-223***
Sample Date:		***9/13/2006***	***5/10/2007***	***10/16/2007***	***4/23/2008***	***10/8/2008***
Sample Type:		***Duplicate***				
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 UJ	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Bromoform	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.31 J	1.0 UJ	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	0.26 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-091306-JY-043***	***GW-17360-051007-JY-085***	***GW-17360-101607-DR-126***	***GW-17360-042308-DR-174***	***GW-17360-100808-DR-223***
Sample Date:		***9/13/2006***	***5/10/2007***	***10/16/2007***	***4/23/2008***	***10/8/2008***
Sample Type:		***Duplicate***				
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-091306-JY-043***	***GW-17360-051007-JY-085***	***GW-17360-101607-DR-126***	***GW-17360-042308-DR-174***	***GW-17360-100808-DR-223***
Sample Date:		***9/13/2006***	***5/10/2007***	***10/16/2007***	***4/23/2008***	***10/8/2008***
Sample Type:		***Duplicate***				
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 UJ	10 U	10 U	10 UJ
Carbazole	ug/L	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	20 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-091306-JY-043***	***GW-17360-051007-JY-085***	***GW-17360-101607-DR-126***	***GW-17360-042308-DR-174***	***GW-17360-100808-DR-223***
Sample Date:		***9/13/2006***	***5/10/2007***	***10/16/2007***	***4/23/2008***	***10/8/2008***
Sample Type:		***Duplicate***				
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040809-DR-269***	***GW-17360-040809-DR-270***	***GW-17360-100709-DR-294***	***GW-17360-101210-BW-085***	***GW-17360-021511-JY-041***
Sample Date:		***4/8/2009***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/15/2011***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	25 U	25 U	25 U	25 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.42 J	0.23 J	0.21 J
Chloromethane (Methyl chloride)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040809-DR-269***	***GW-17360-040809-DR-270***	***GW-17360-100709-DR-294***	***GW-17360-101210-BW-085***	***GW-17360-021511-JY-041***
Sample Date:		***4/8/2009***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/15/2011***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2,4,6-Trichlorophenol	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	--
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	--
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2,4-Dinitrophenol	ug/L	20 U	20 U	20 U	20 U	--
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	--
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	--
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	--
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	--
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Chloroaniline	ug/L	20 U	20 U	20 U	20 U	--
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	--
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	--
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*86-1*	*86-1*	*86-1*	*86-1*	*86-1*
Sample Identification:		*GW-17360-040809-DR-269*	*GW-17360-040809-DR-270*	*GW-17360-100709-DR-294*	*GW-17360-101210-BW-085*	*GW-17360-021511-JY-041*
Sample Date:		*4/8/2009*	*4/8/2009*	*10/7/2009*	*10/12/2010*	*2/15/2011*
Sample Type:			*Duplicate*			
Segment Depth:		*(18.5-29) ft BGS*	*(18.5-29) ft BGS*	*(18.5-29) ft BGS*	*(18.5-29) ft BGS*	*(18.5-29) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Acetophenone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Atrazine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Benzaldehyde	ug/L	10 U	10 U	10 U	10 U	--
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Benzo(a)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	1.0 UJ
Benzo(b)fluoranthene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	1.0 UJ
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ
Biphenyl (1,1-Biphenyl)	ug/L	10 U	10 U	10 U	10 U	--
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
bis(2-Chloroethyl)ether	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Caprolactam	ug/L	10 U	10 U	10 U	10 U	--
Carbazole	ug/L	10 U	10 U	10 U	10 U	--
Chrysene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ
Dibenz(a,h)anthracene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ
Dibenzofuran	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Diethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Dimethyl phthalate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Fluoranthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Nitrobenzene	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	--
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Pentachlorophenol	ug/L	20 U	20 U	20 U	20 U	--
Phenanthrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	2.0 UJ
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***86-1***	***86-1***	***86-1***	***86-1***
Sample Identification:		***GW-17360-040809-DR-269***	***GW-17360-040809-DR-270***	***GW-17360-100709-DR-294***	***GW-17360-101210-BW-085***	***GW-17360-021511-JY-041***
Sample Date:		***4/8/2009***	***4/8/2009***	***10/7/2009***	***10/12/2010***	***2/15/2011***
Sample Type:			***Duplicate***			
Segment Depth:		***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***	***(18.5-29) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*86-1*	*MW18-10*	*MW18-10*	*MW18-10*	*MW18-10*
Sample Identification:		*GW-17360-092911-EM-040*	*GW-17360-101210-BW-083*	*GW-17360-021411-JY-036*	*GW-17360-021411-JY-037*	*GW-17360-092911-EM-042*
Sample Date:		*9/29/2011*	*10/12/2010*	*2/14/2011*	*2/14/2011*	*9/29/2011*
Sample Type:					*Duplicate*	
Segment Depth:		*(18.5-29) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	25 U	25 U	25 U	10 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	10 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	50 U	50 U	50 U	10 U
Acetone	ug/L	10 U	25 U	25 U	25 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 UJ	5.0 U	0.69 J	0.58 J	5.0 UJ
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.43 J	0.94 J	0.98 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	0.72 J	0.25 J	0.27 J	0.17 J
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	0.36 J	0.51 J	0.50 J	0.70 J

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***86-1***	***MW18-10***	***MW18-10***	***MW18-10***	***MW18-10***
Sample Identification:		***GW-17360-092911-EM-040***	***GW-17360-101210-BW-083***	***GW-17360-021411-JY-036***	***GW-17360-021411-JY-037***	***GW-17360-092911-EM-042***
Sample Date:		***9/29/2011***	***10/12/2010***	***2/14/2011***	***2/14/2011***	***9/29/2011***
Sample Type:					***Duplicate***	
Segment Depth:		***(18.5-29) ft BGS***	***(16-26) ft BGS***	***(16-26) ft BGS***	***(16-26) ft BGS***	***(16-26) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.0 U	1.0 U	0.51 J	0.54 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	2.0 U	3.0 U	3.0 U	2.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	4.8 U	5.0 U	--	--	9.5 U
2,4,5-Trichlorophenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
2,4,6-Trichlorophenol	ug/L	3.8 U	4.0 U	--	--	7.6 U
2,4-Dichlorophenol	ug/L	9.6 U	10 U	--	--	19 U
2,4-Dimethylphenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
2,4-Dinitrophenol	ug/L	19 U	20 U	--	--	38 U
2,4-Dinitrotoluene	ug/L	4.8 U	5.0 U	--	--	9.5 U
2,6-Dinitrotoluene	ug/L	4.8 U	5.0 U	--	--	9.5 U
2-Chloronaphthalene	ug/L	4.8 U	5.0 U	--	--	9.5 U
2-Chlorophenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
2-Methylnaphthalene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U
2-Methylphenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
2-Nitroaniline	ug/L	19 U	20 U	--	--	38 U
2-Nitrophenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
3&4-Methylphenol	ug/L	4.8 U	--	--	--	9.5 U
3,3'-Dichlorobenzidine	ug/L	0.96 U	4.0 U	--	--	1.9 U
3-Nitroaniline	ug/L	19 U	20 U	--	--	38 U
4,6-Dinitro-2-methylphenol	ug/L	19 U	20 U	--	--	38 U
4-Bromophenyl phenyl ether	ug/L	4.8 U	5.0 U	--	--	9.5 U
4-Chloro-3-methylphenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
4-Chloroaniline	ug/L	9.6 U	20 U	--	--	19 U
4-Chlorophenyl phenyl ether	ug/L	4.8 U	5.0 U	--	--	9.5 U
4-Methylphenol	ug/L	--	5.0 U	--	--	--
4-Nitroaniline	ug/L	19 U	20 U	--	--	38 U
4-Nitrophenol	ug/L	19 U	20 U	--	--	38 U
Acenaphthene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*86-1*	*MW18-10*	*MW18-10*	*MW18-10*	*MW18-10*
Sample Identification:		*GW-17360-092911-EM-040*	*GW-17360-101210-BW-083*	*GW-17360-021411-JY-036*	*GW-17360-021411-JY-037*	*GW-17360-092911-EM-042*
Sample Date:		*9/29/2011*	*10/12/2010*	*2/14/2011*	*2/14/2011*	*9/29/2011*
Sample Type:					*Duplicate*	
Segment Depth:		*(18.5-29) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U
Acetophenone	ug/L	4.8 U	5.0 U	--	--	9.5 U
Anthracene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U
Atrazine	ug/L	2.9 U	5.0 U	--	--	5.7 U
Benzaldehyde	ug/L	4.8 U	10 U	--	--	9.5 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	0.96 U	1.0 U	1.0 U	1.0 U	1.9 U
Benzo(a)pyrene	ug/L	0.96 U	2.0 U	1.0 U	1.0 U	1.9 U
Benzo(b)fluoranthene	ug/L	0.96 U	2.0 U	1.0 U	1.0 U	1.9 U
Benzo(g,h,i)perylene	ug/L	0.96 U	5.0 U	1.0 U	1.0 U	1.9 U
Benzo(k)fluoranthene	ug/L	0.96 U	5.0 U	1.0 U	1.0 U	1.9 U
Biphenyl (1,1-Biphenyl)	ug/L	4.8 U	10 U	--	--	9.5 U
bis(2-Chloroethoxy)methane	ug/L	4.8 U	5.0 U	--	--	9.5 U
bis(2-Chloroethyl)ether	ug/L	0.96 U	4.0 U	--	--	1.9 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	4.8 U	5.0 U	--	--	9.5 U
Butyl benzylphthalate (BBP)	ug/L	4.8 U	5.0 U	--	--	9.5 U
Caprolactam	ug/L	9.6 U	10 U	--	--	19 U
Carbazole	ug/L	9.6 U	10 U	--	--	19 U
Chrysene	ug/L	0.96 U	5.0 U	1.0 U	1.0 U	1.9 U
Dibenz(a,h)anthracene	ug/L	1.9 U	2.0 U	2.0 U	2.0 U	3.8 U
Dibenzofuran	ug/L	3.8 U	5.0 U	--	--	7.6 U
Diethyl phthalate	ug/L	4.8 U	5.0 U	--	--	9.5 U
Dimethyl phthalate	ug/L	4.8 U	5.0 U	--	--	9.5 U
Di-n-butylphthalate (DBP)	ug/L	4.8 U	5.0 U	--	--	9.5 U
Di-n-octyl phthalate (DnOP)	ug/L	4.8 U	5.0 U	--	--	9.5 U
Fluoranthene	ug/L	0.96 U	5.0 U	1.0 U	1.0 U	1.9 U
Fluorene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U
Hexachlorobenzene	ug/L	0.19 U	5.0 U	--	--	0.38 U
Hexachlorobutadiene	ug/L	0.96 U	5.0 U	--	--	1.9 U
Hexachlorocyclopentadiene	ug/L	4.8 UJ	5.0 U	--	--	9.5 U
Hexachloroethane	ug/L	4.8 U	5.0 U	--	--	9.5 U
Indeno(1,2,3-cd)pyrene	ug/L	1.9 U	2.0 U	2.0 U	2.0 U	3.8 U
Isophorone	ug/L	4.8 U	5.0 U	--	--	9.5 U
Naphthalene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U
Nitrobenzene	ug/L	2.9 U	4.0 U	--	--	5.7 U
N-Nitrosodi-n-propylamine	ug/L	4.8 U	5.0 U	--	--	9.5 U
N-Nitrosodiphenylamine	ug/L	4.8 U	5.0 U	--	--	9.5 U
Pentachlorophenol	ug/L	4.8 U	20 U	--	--	9.5 U
Phenanthrene	ug/L	1.9 U	5.0 U	2.0 U	2.0 U	3.8 U
Phenol	ug/L	4.8 U	5.0 U	--	--	9.5 U
Pyrene	ug/L	4.8 U	5.0 U	5.0 U	5.0 U	9.5 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*86-1*	*MW18-10*	*MW18-10*	*MW18-10*	*MW18-10*
Sample Identification:		*GW-17360-092911-EM-040*	*GW-17360-101210-BW-083*	*GW-17360-021411-JY-036*	*GW-17360-021411-JY-037*	*GW-17360-092911-EM-042*
Sample Date:		*9/29/2011*	*10/12/2010*	*2/14/2011*	*2/14/2011*	*9/29/2011*
Sample Type:					*Duplicate*	
Segment Depth:		*(18.5-29) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*	*(16-26) ft BGS*
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW18-10***	***MW44-12***	***MW44-12***	***MW44-12***	***MW44-12***
Sample Identification:		***GW-17360-092911-EM-043***	***GW-17360-102312-DD-007***	***WG-17360-050313-MR-032***	***WG-17360-110513-MR-058***	***WG-017360-042314-MR-063***
Sample Date:		***9/29/2011***	***10/23/2012***	***5/3/2013***	***11/5/2013***	***4/23/2014***
Sample Type:		***Duplicate***				
Segment Depth:		***(16-26) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	25 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 UJ	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	2.1	5.0 U	1.9	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	0.35 J	5.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	5.0 U	120 U	19 J	17 J
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	10 U	5.0 U	250 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	5.0 U	15 J	50 U	8.7 J
Acetone	ug/L	10 U	5.0 U	250 U	50 U	40 J
Benzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 UJ	1.0 U	5.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	25 U	5.0 U	5.0 UJ
Carbon disulfide	ug/L	5.0 UJ	0.24 J	25 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	25 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	25 UJ	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	3.1	5.0 U	2.5	1.2
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 UJ	1.0 U	25 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	25 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	0.46 J	5.0 U	1.7	2.0
Isopropyl benzene	ug/L	1.0 U	3.2	25 U	2.4 J	3.1 J
Methyl acetate	ug/L	10 U	5.0 U	50 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.71 J	1.0 U	5.0 U	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW18-10***	***MW44-12***	***MW44-12***	***MW44-12***	***MW44-12***
Sample Identification:		***GW-17360-092911-EM-043***	***GW-17360-102312-DD-007***	***WG-17360-050313-MR-032***	***WG-17360-110513-MR-058***	***WG-017360-042314-MR-063***
Sample Date:		***9/29/2011***	***10/23/2012***	***5/3/2013***	***11/5/2013***	***4/23/2014***
Sample Type:		***Duplicate***				
Segment Depth:		***(16-26) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	5.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.35 J	5.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	1.9 J	15 U	3.4	9.5
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	7.6 U	0.50 U	4.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	19 U	0.50 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	9.5 U	1.0 U	5.0 U	2.0 J	4.2 J
2,4-Dinitrophenol	ug/L	38 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	9.5 U	0.70	5.0 U	5.0 U	2.3 J
2-Nitroaniline	ug/L	38 U	0.50 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	9.5 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	1.9 U	R	1.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	38 U	R	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	38 U	5.0 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	19 U	1.0 U	10 U	20 U	20 U
4-Chlorophenyl phenyl ether	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	0.50 U	5.0 U	5.0 U	8.9
4-Nitroaniline	ug/L	38 U	R	20 U	20 U	20 U
4-Nitrophenol	ug/L	38 U	5.0 U	20 U	20 U	20 U
Acenaphthene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW18-10***	***MW44-12***	***MW44-12***	***MW44-12***	***MW44-12***
Sample Identification:		***GW-17360-092911-EM-043***	***GW-17360-102312-DD-007***	***WG-17360-050313-MR-032***	***WG-17360-110513-MR-058***	***WG-017360-042314-MR-063***
Sample Date:		***9/29/2011***	***10/23/2012***	***5/3/2013***	***11/5/2013***	***4/23/2014***
Sample Type:		***Duplicate***				
Segment Depth:		***(16-26) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	9.5 U	0.50 U	1.0 U	1.0 U	1.0 U
Anthracene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	5.7 U	0.50 U	3.0 U	1.0 U	1.0 U
Benzaldehyde	ug/L	9.5 U	0.50 U	1.0 U	1.0 U	1.0 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	9.5 U	0.56	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	9.5 U	1.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	19 U	1.0 U	10 U	10 U	10 U
Carbazole	ug/L	19 U	0.50 U	10 U	1.2 J	10 U
Chrysene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	3.8 U	0.50 U	2.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	7.6 U	0.50 U	4.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	9.5 U	1.9	5.0 U	20 U	20 U
Dimethyl phthalate	ug/L	9.5 U	0.50 U	5.0 U	20 U	20 U
Di-n-butylphthalate (DBP)	ug/L	9.5 U	1.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Fluorene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	0.38 U	0.50 U	1.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	1.9 U	0.50 U	1.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	9.5 U	0.50 U	5.0 U	20 U	20 U
Hexachloroethane	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	3.8 U	0.50 U	2.0 U	5.0 U	5.0 U
Isophorone	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	9.5 U	1.7	5.0 U	1.1 J	2.8 J
Nitrobenzene	ug/L	5.7 U	0.50 U	3.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	9.5 U	0.50 U	1.0 U	20 U	20 U
Phenanthrene	ug/L	3.8 U	0.50 U	2.0 U	5.0 U	5.0 U
Phenol	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	23
Pyrene	ug/L	9.5 U	0.50 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW18-10***	***MW44-12***	***MW44-12***	***MW44-12***	***MW44-12***
Sample Identification:		***GW-17360-092911-EM-043***	***GW-17360-102312-DD-007***	***WG-17360-050313-MR-032***	***WG-17360-110513-MR-058***	***WG-017360-042314-MR-063***
Sample Date:		***9/29/2011***	***10/23/2012***	***5/3/2013***	***11/5/2013***	***4/23/2014***
Sample Type:		***Duplicate***				
Segment Depth:		***(16-26) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW44-12***	***MW44-12***	***MW45-12***	***MW45-12***	***MW45-12***
Sample Identification:		***WG-017360-101514-MR-047***	***WG-017360-041515-MR-047***	***GW-17360-102312-DD-005***	***GW-17360-102312-DD-006***	***WG-17360-050313-MR-031***
Sample Date:		***10/15/2014***	***4/15/2015***	***10/23/2012***	***10/23/2012***	***5/3/2013***
Sample Type:					***Duplicate***	
Segment Depth:		***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	0.83 J	1.6	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	1.4 J	5.0 U	5.0 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	5.0 U	5.0 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.8 J	2.6 J	5.0 U	5.0 U	50 U
Acetone	ug/L	50 U	50 U	5.0 U	5.0 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.5	1.7	0.30 J	0.29 J	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Ethylbenzene	ug/L	1.4	1.5	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	2.0 J	2.0 J	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	5.0 U	5.0 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.2	1.2	1.9

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW44-12***	***MW44-12***	***MW45-12***	***MW45-12***	***MW45-12***
Sample Identification:		***WG-017360-101514-MR-047***	***WG-017360-041515-MR-047***	***GW-17360-102312-DD-005***	***GW-17360-102312-DD-006***	***WG-17360-050313-MR-031***
Sample Date:		***10/15/2014***	***4/15/2015***	***10/23/2012***	***10/23/2012***	***5/3/2013***
Sample Type:					***Duplicate***	
Segment Depth:		***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	0.60 J	0.60 J	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	4.7	4.7	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2,4,6-Trichlorophenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	4.0 U
2,4-Dichlorophenol	ug/L	10 U	5.0 U	0.50 U	0.50 U	10 U
2,4-Dimethylphenol	ug/L	3.6 J	2.0 J	1.0 U	1.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
2-Methylphenol	ug/L	1.5 J	5.0 U	0.50 U	0.50 U	5.0 U
2-Nitroaniline	ug/L	20 U	5.0 U	0.50 U	0.50 U	20 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
3&4-Methylphenol	ug/L	--	5.0 U	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.0 U	R	R	1.0 U
3-Nitroaniline	ug/L	20 U	5.0 U	R	R	20 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	5.0 U	5.0 U	5.0 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
4-Chloroaniline	ug/L	20 U	5.0 U	1.0 U	1.0 U	10 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
4-Methylphenol	ug/L	1.2 J	--	0.50 U	0.50 U	5.0 U
4-Nitroaniline	ug/L	20 U	5.0 U	R	R	20 U
4-Nitrophenol	ug/L	20 U	5.0 U	5.0 U	5.0 U	20 U
Acenaphthene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW44-12***	***MW44-12***	***MW45-12***	***MW45-12***	***MW45-12***
Sample Identification:		***WG-017360-101514-MR-047***	***WG-017360-041515-MR-047***	***GW-17360-102312-DD-005***	***GW-17360-102312-DD-006***	***WG-17360-050313-MR-031***
Sample Date:		***10/15/2014***	***4/15/2015***	***10/23/2012***	***10/23/2012***	***5/3/2013***
Sample Type:					***Duplicate***	
Segment Depth:		***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Acetophenone	ug/L	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Anthracene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Atrazine	ug/L	1.0 U	1.0 U	0.50 U	0.50 U	3.0 U
Benzaldehyde	ug/L	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Benzo(a)pyrene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Benzo(b)fluoranthene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Biphenyl (1,1-Biphenyl)	ug/L	0.15 J	5.0 U	0.50 U	0.50 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	1.0 U	1.0 U	10 U
Carbazole	ug/L	10 U	5.0 U	0.50 U	0.50 U	10 U
Chrysene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Dibenz(a,h)anthracene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	2.0 U
Dibenzofuran	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	4.0 U
Diethyl phthalate	ug/L	20 U	5.0 U	0.50 U	0.50 U	5.0 U
Dimethyl phthalate	ug/L	20 U	5.0 U	0.50 U	0.50 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Fluorene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	1.0 U
Hexachlorocyclopentadiene	ug/L	20 U	5.0 U	0.50 U	0.50 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	2.0 U
Isophorone	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Naphthalene	ug/L	2.3 J	0.48 J	0.50 U	0.50 U	5.0 U
Nitrobenzene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	3.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Pentachlorophenol	ug/L	20 U	5.0 U	0.50 U	0.50 U	1.0 U
Phenanthrene	ug/L	1.7 J	5.0 U	0.50 U	0.50 U	2.0 U
Phenol	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	0.50 U	0.50 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW44-12***	***MW44-12***	***MW45-12***	***MW45-12***	***MW45-12***
Sample Identification:		***WG-017360-101514-MR-047***	***WG-017360-041515-MR-047***	***GW-17360-102312-DD-005***	***GW-17360-102312-DD-006***	***WG-17360-050313-MR-031***
Sample Date:		***10/15/2014***	***4/15/2015***	***10/23/2012***	***10/23/2012***	***5/3/2013***
Sample Type:					***Duplicate***	
Segment Depth:		***(18.5-28.5) ft BGS***	***(18.5-28.5) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW45-12***	***MW45-12***	***MW45-12***	***MW45-12***	***MW46-12***
Sample Identification:		***WG-17360-110513-MR-060***	***WG-017360-042314-MR-064***	***WG-017360-101514-MR-048***	***WG-017360-041515-MR-048***	***GW-17360-102312-DD-001***
Sample Date:		***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***	***10/23/2012***
Sample Type:						
Segment Depth:		***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	5.0 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	5.0 U
Acetone	ug/L	50 U	4.0 J	50 U	50 U	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	5.0 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.9	3.0	1.0 U	2.3	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW45-12***	***MW45-12***	***MW45-12***	***MW45-12***	***MW46-12***
Sample Identification:		***WG-17360-110513-MR-060***	***WG-017360-042314-MR-064***	***WG-017360-101514-MR-048***	***WG-017360-041515-MR-048***	***GW-17360-102312-DD-001***
Sample Date:		***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***	***10/23/2012***
Sample Type:						
Segment Depth:		***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2,4,6-Trichlorophenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2,4-Dichlorophenol	ug/L	10 U	10 U	11 U	5.0 U	0.50 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	1.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
2-Nitroaniline	ug/L	20 U	20 U	22 U	5.0 U	0.50 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
3&4-Methylphenol	ug/L	--	--	--	5.0 U	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	R
3-Nitroaniline	ug/L	20 U	20 U	22 U	5.0 U	R
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	22 U	5.0 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
4-Chloroaniline	ug/L	20 U	20 U	22 U	5.0 U	1.0 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.4 U	--	0.50 U
4-Nitroaniline	ug/L	20 U	20 U	22 U	5.0 U	R
4-Nitrophenol	ug/L	20 U	20 U	22 U	5.0 U	5.0 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW45-12***	***MW45-12***	***MW45-12***	***MW45-12***	***MW46-12***
Sample Identification:		***WG-17360-110513-MR-060***	***WG-017360-042314-MR-064***	***WG-017360-101514-MR-048***	***WG-017360-041515-MR-048***	***GW-17360-102312-DD-001***
Sample Date:		***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***	***10/23/2012***
Sample Type:						
Segment Depth:		***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Acetophenone	ug/L	1.0 U	1.0 U	1.1 U	1.0 U	0.50 U
Anthracene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Atrazine	ug/L	1.0 U	1.0 U	1.1 U	1.0 U	0.50 U
Benzaldehyde	ug/L	1.0 U	1.0 U	1.1 U	1.0 U	0.50 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Benzo(a)pyrene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Benzo(b)fluoranthene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	1.0 U
Caprolactam	ug/L	10 U	10 U	11 U	10 U	1.0 U
Carbazole	ug/L	10 U	10 U	11 U	5.0 U	0.50 U
Chrysene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Dibenz(a,h)anthracene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Dibenzofuran	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Diethyl phthalate	ug/L	20 U	20 U	22 U	5.0 U	0.50 U
Dimethyl phthalate	ug/L	20 U	20 U	22 U	5.0 U	0.50 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	1.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Fluoranthene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Fluorene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Hexachlorobenzene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Hexachlorobutadiene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Hexachlorocyclopentadiene	ug/L	20 U	20 U	22 U	5.0 U	0.50 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Isophorone	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Naphthalene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Nitrobenzene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Pentachlorophenol	ug/L	20 U	20 U	22 U	5.0 U	0.50 U
Phenanthrene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Phenol	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U
Pyrene	ug/L	5.0 U	5.0 U	5.4 U	5.0 U	0.50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW45-12***	***MW45-12***	***MW45-12***	***MW45-12***	***MW46-12***
Sample Identification:		***WG-17360-110513-MR-060***	***WG-017360-042314-MR-064***	***WG-017360-101514-MR-048***	***WG-017360-041515-MR-048***	***GW-17360-102312-DD-001***
Sample Date:		***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***	***10/23/2012***
Sample Type:						
Segment Depth:		***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(19.1-29.1) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***
Sample Identification:		***WG-17360-050713-EB-061***	***WG-17360-110513-EB-066***	***WG-017360-042314-MR-065***	***WG-017360-101514-MR-049***	***WG-017360-041515-MR-049***
Sample Date:		***5/7/2013***	***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***
Sample Type:						
Segment Depth:		***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	50 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***
Sample Identification:		***WG-17360-050713-EB-061***	***WG-17360-110513-EB-066***	***WG-017360-042314-MR-065***	***WG-017360-101514-MR-049***	***WG-017360-041515-MR-049***
Sample Date:		***5/7/2013***	***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***
Sample Type:						
Segment Depth:		***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	0.50 J	5.0 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	3.9 J	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	--	5.0 U
3,3'-Dichlorobenzidine	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	20 U	20 U	20 U	20 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	10 U	20 U	20 U	20 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	--
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	5.0 U
4-Nitrophenol	ug/L	20 U	20 U	20 U	20 U	5.0 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***
Sample Identification:		***WG-17360-050713-EB-061***	***WG-17360-110513-EB-066***	***WG-017360-042314-MR-065***	***WG-017360-101514-MR-049***	***WG-017360-041515-MR-049***
Sample Date:		***5/7/2013***	***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***
Sample Type:						
Segment Depth:		***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzaldehyde	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	0.50 J	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	10 U	10 U	10 U	10 U
Carbazole	ug/L	10 U	10 U	10 U	10 U	5.0 U
Chrysene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenzofuran	ug/L	4.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	20 U	20 U	20 U	5.0 U
Dimethyl phthalate	ug/L	5.0 U	20 U	20 U	20 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 UJ	20 U	20 U	20 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Nitrobenzene	ug/L	3.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	1.0 U	20 U	20 U	20 U	5.0 U
Phenanthrene	ug/L	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***	***MW46-12***
Sample Identification:		***WG-17360-050713-EB-061***	***WG-17360-110513-EB-066***	***WG-017360-042314-MR-065***	***WG-017360-101514-MR-049***	***WG-017360-041515-MR-049***
Sample Date:		***5/7/2013***	***11/5/2013***	***4/23/2014***	***10/15/2014***	***4/15/2015***
Sample Type:						
Segment Depth:		***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***	***(20.2-30.2) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW50-12***	***MW50-12***	***MW50-12***	***MW50-12***	***MW50-12***
Sample Identification:		***GW-17360-110212-BW-201***	***WG-17360-050313-MR-034***	***WG-17360-110513-MR-059***	***WG-017360-042314-MR-062***	***WG-017360-101514-MR-046***
Sample Date:		***11/2/2012***	***5/3/2013***	***11/5/2013***	***4/23/2014***	***10/15/2014***
Sample Type:						
Segment Depth:		***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	2.6 J	25 U	25 U	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	5.0 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	50 U	50 U	50 U	50 U
Acetone	ug/L	12 U	50 U	50 U	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	3.1	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	0.34 J	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.5	1.0 U	0.65 J	1.0 U	0.97 J
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	0.54 J	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	4.6	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	5.0 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	0.60 J	4.2	**5.3[ab]**	2.9	4.4

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*
Sample Identification:		*GW-17360-110212-BW-201*	*WG-17360-050313-MR-034*	*WG-17360-110513-MR-059*	*WG-017360-042314-MR-062*	*WG-017360-101514-MR-046*
Sample Date:		*11/2/2012*	*5/3/2013*	*11/5/2013*	*4/23/2014*	*10/15/2014*
Sample Type:						
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
VOCs (continued)						
Toluene	ug/L	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.42 J	1.4	1.1	1.0 U	1.3
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	15	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2,4,5-Trichlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2,4,6-Trichlorophenol	ug/L	5.0 U	4.0 U	5.0 U	5.0 U	5.4 U
2,4-Dichlorophenol	ug/L	5.0 U	10 U	10 U	10 U	11 U
2,4-Dimethylphenol	ug/L	10 U	5.0 U	5.0 U	5.0 U	5.4 U
2,4-Dinitrophenol	ug/L	50 U	5.0 U	5.0 U	5.0 U	5.4 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2-Chloronaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2-Chlorophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2-Methylnaphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
2-Nitroaniline	ug/L	5.0 U	20 U	20 U	20 U	22 U
2-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	10 U	1.0 U	5.0 U	5.0 U	5.4 U
3-Nitroaniline	ug/L	10 U	20 U	20 U	20 U	22 U
4,6-Dinitro-2-methylphenol	ug/L	50 U	20 U	20 U	20 U	22 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
4-Chloro-3-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
4-Chloroaniline	ug/L	10 U	10 U	20 U	20 U	22 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
4-Methylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
4-Nitroaniline	ug/L	10 U	20 U	20 U	20 U	22 U
4-Nitrophenol	ug/L	50 U	20 U	20 U	20 U	22 U
Acenaphthene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*
Sample Identification:		*GW-17360-110212-BW-201*	*WG-17360-050313-MR-034*	*WG-17360-110513-MR-059*	*WG-017360-042314-MR-062*	*WG-017360-101514-MR-046*
Sample Date:		*11/2/2012*	*5/3/2013*	*11/5/2013*	*4/23/2014*	*10/15/2014*
Sample Type:						
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Acetophenone	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.1 U
Anthracene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Atrazine	ug/L	5.0 U	3.0 U	1.0 U	1.0 U	1.1 U
Benzaldehyde	ug/L	5.0 U	1.0 U	1.0 U	1.0 U	1.1 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Benzo(a)pyrene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Benzo(b)fluoranthene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Benzo(g,h,i)perylene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Benzo(k)fluoranthene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.0 U	5.0 U	0.28 J	0.88 J
Butyl benzylphthalate (BBP)	ug/L	10 U	5.0 U	5.0 U	5.0 U	5.4 U
Caprolactam	ug/L	10 UJ	10 U	10 U	10 U	11 U
Carbazole	ug/L	5.0 U	10 U	10 U	10 U	11 U
Chrysene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Dibenz(a,h)anthracene	ug/L	5.0 U	2.0 U	5.0 U	5.0 U	5.4 U
Dibenzofuran	ug/L	5.0 U	4.0 U	5.0 U	5.0 U	5.4 U
Diethyl phthalate	ug/L	5.0 U	5.0 U	20 U	20 U	22 U
Dimethyl phthalate	ug/L	5.0 U	5.0 U	20 U	20 U	22 U
Di-n-butylphthalate (DBP)	ug/L	10 U	5.0 U	5.0 U	0.29 J	5.4 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Fluoranthene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Fluorene	ug/L	5.0 U	5.0 U	5.0 U	0.16 J	5.4 U
Hexachlorobenzene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Hexachlorobutadiene	ug/L	5.0 U	1.0 U	5.0 U	5.0 U	5.4 U
Hexachlorocyclopentadiene	ug/L	5.0 U	5.0 U	20 U	20 U	22 U
Hexachloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	2.0 U	5.0 U	5.0 U	5.4 U
Isophorone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Naphthalene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Nitrobenzene	ug/L	5.0 U	3.0 U	5.0 U	5.0 U	5.4 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Pentachlorophenol	ug/L	5.0 U	1.0 U	20 U	20 U	22 U
Phenanthrene	ug/L	5.0 U	2.0 U	5.0 U	5.0 U	5.4 U
Phenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U
Pyrene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.4 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*	*MW50-12*
Sample Identification:		*GW-17360-110212-BW-201*	*WG-17360-050313-MR-034*	*WG-17360-110513-MR-059*	*WG-017360-042314-MR-062*	*WG-017360-101514-MR-046*
Sample Date:		*11/2/2012*	*5/3/2013*	*11/5/2013*	*4/23/2014*	*10/15/2014*
Sample Type:						
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	0.20 UJ	-	-	-	-
Total PCBs	ug/L	ND	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW50-12***	***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***
Sample Identification:		***WG-017360-041515-MR-046***	***GW-17360-110212-BW-200***	***WG-17360-050313-MR-037***	***WG-17360-050313-MR-038***	***WG-17360-110513-EB-056***
Sample Date:		***4/15/2015***	***11/2/2012***	***5/3/2013***	***5/3/2013***	***11/5/2013***
Sample Type:					***Duplicate***	
Segment Depth:		***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	8.6	120 U	30	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	5.0 U	250 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	5.0 U	250 U	50 U	50 U
Acetone	ug/L	50 U	61	28 J	64	8.2 J
Benzene	ug/L	1.0 U	0.24 J	5.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	0.27 J	25 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	6.3	5.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	0.45 J	25 U	1.6 J	5.0 U
cis-1,2-Dichloroethene	ug/L	1.6	1.0 U	5.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	0.31 J	5.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	0.89 J	5.0 U	0.50 J	1.0 U
Isopropyl benzene	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	5.0 U	50 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	25 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	4.0	2.1	5.0 U	0.82 J	2.6

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW51-12*	*MW51-12*	*MW51-12*	*MW51-12*
Sample Identification:		*WG-017360-041515-MR-046*	*GW-17360-110212-BW-200*	*WG-17360-050313-MR-037*	*WG-17360-050313-MR-038*	*WG-17360-110513-EB-056*
Sample Date:		*4/15/2015*	*11/2/2012*	*5/3/2013*	*5/3/2013*	*11/5/2013*
Sample Type:					*Duplicate*	
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	0.44 J	5.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.2	0.44 J	5.0 U	1.0 U	1.1
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	0.68 J	10	15 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	5.0 U	2.5 U	4.0 U	4.0 U	5.0 U
2,4-Dichlorophenol	ug/L	5.0 U	2.5 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2-Methylphenol	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	5.0 U	2.5 U	20 U	20 U	20 U
2-Nitrophenol	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	5.0 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U
3-Nitroaniline	ug/L	5.0 U	5.0 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	25 U	20 U	20 U	20 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	5.0 U	5.0 U	10 U	10 U	20 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
4-Methylphenol	ug/L	--	2.5 U	1.9 J	1.8 J	5.0 U
4-Nitroaniline	ug/L	5.0 U	5.0 U	20 U	20 U	20 U
4-Nitrophenol	ug/L	5.0 U	25 U	20 U	20 U	20 U
Acenaphthene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW51-12*	*MW51-12*	*MW51-12*	*MW51-12*
Sample Identification:		*WG-017360-041515-MR-046*	*GW-17360-110212-BW-200*	*WG-17360-050313-MR-037*	*WG-17360-050313-MR-038*	*WG-17360-110513-EB-056*
Sample Date:		*4/15/2015*	*11/2/2012*	*5/3/2013*	*5/3/2013*	*11/5/2013*
Sample Type:					*Duplicate*	
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Acetophenone	ug/L	1.0 U	2.5 U	0.89 J	0.98 J	1.0 U
Anthracene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Atrazine	ug/L	1.0 U	2.5 U	3.0 U	3.0 U	1.0 U
Benzaldehyde	ug/L	1.0 U	2.5 U	1.0 U	1.0 U	1.0 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Benzo(a)pyrene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	5.0 UJ	10 U	10 U	10 U
Carbazole	ug/L	5.0 U	2.5 U	10 U	10 U	10 U
Chrysene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	5.0 U	2.5 U	2.0 U	2.0 U	5.0 U
Dibenzofuran	ug/L	5.0 U	2.5 U	4.0 U	4.0 U	5.0 U
Diethyl phthalate	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	20 U
Dimethyl phthalate	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	20 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Fluorene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	20 U
Hexachloroethane	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	2.5 U	2.0 U	2.0 U	5.0 U
Isophorone	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	2.5 U	1.0 J	1.1 J	5.0 U
Nitrobenzene	ug/L	5.0 U	2.5 U	3.0 U	3.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	5.0 U	2.5 U	1.0 U	1.0 U	20 U
Phenanthrene	ug/L	5.0 U	2.5 U	2.0 U	2.0 U	5.0 U
Phenol	ug/L	5.0 U	2.5 U	3.8 J	3.7 J	5.0 U
Pyrene	ug/L	5.0 U	2.5 U	5.0 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW50-12*	*MW51-12*	*MW51-12*	*MW51-12*	*MW51-12*
Sample Identification:		*WG-017360-041515-MR-046*	*GW-17360-110212-BW-200*	*WG-17360-050313-MR-037*	*WG-17360-050313-MR-038*	*WG-17360-110513-EB-056*
Sample Date:		*4/15/2015*	*11/2/2012*	*5/3/2013*	*5/3/2013*	*11/5/2013*
Sample Type:					*Duplicate*	
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	0.24 UJ	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	0.24 UJ	-	-	-
Total PCBs	ug/L	-	ND	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***
Sample Identification:		***WG-017360-042214-MR-061***	***WG-017360-101514-MR-044***	***WG-017360-101514-MR-045***	***WG-017360-041515-MR-044***	***WG-017360-041515-MR-045***
Sample Date:		***4/22/2014***	***10/15/2014***	***10/15/2014***	***4/15/2015***	***4/15/2015***
Sample Type:				***Duplicate***		***Duplicate***
Segment Depth:		***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	25 U	2.4 J	2.5 J	25 U	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	50 U	50 U	50 U	50 U	50 U
Acetone	ug/L	4.4 J	10 J	8.9 J	50 U	50 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	2.7	2.6	2.7	4.1	3.8

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***
Sample Identification:		***WG-017360-042214-MR-061***	***WG-017360-101514-MR-044***	***WG-017360-101514-MR-045***	***WG-017360-041515-MR-044***	***WG-017360-041515-MR-045***
Sample Date:		***4/22/2014***	***10/15/2014***	***10/15/2014***	***4/15/2015***	***4/15/2015***
Sample Type:				***Duplicate***		***Duplicate***
Segment Depth:		***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***
	Units					
VOCs (continued)						
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.1	1.1
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dichlorophenol	ug/L	R	11 U	11 U	5.0 U	5.0 U
2,4-Dimethylphenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dinitrophenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2,6-Dinitrotoluene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2-Chloronaphthalene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
2-Chlorophenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2-Methylnaphthalene	ug/L	5.0 U	5.3 U	0.16 J	5.0 U	5.0 U
2-Methylphenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
2-Nitroaniline	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
2-Nitrophenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	5.0 U	5.0 U
3,3'-Dichlorobenzidine	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
3-Nitroaniline	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	R	21 U	21 U	5.0 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
4-Chloro-3-methylphenol	ug/L	R	5.3 U	5.3 U	5.0 U	5.0 U
4-Chloroaniline	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
4-Methylphenol	ug/L	R	0.62 J	0.71 J	--	--
4-Nitroaniline	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
4-Nitrophenol	ug/L	R	21 U	21 U	5.0 U	5.0 U
Acenaphthene	ug/L	5.0 U	0.51 J	0.51 J	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW51-12*	*MW51-12*	*MW51-12*	*MW51-12*	*MW51-12*
Sample Identification:		*WG-017360-042214-MR-061*	*WG-017360-101514-MR-044*	*WG-017360-101514-MR-045*	*WG-017360-041515-MR-044*	*WG-017360-041515-MR-045*
Sample Date:		*4/22/2014*	*10/15/2014*	*10/15/2014*	*4/15/2015*	*4/15/2015*
Sample Type:				*Duplicate*		*Duplicate*
Segment Depth:		*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*	*(17-27) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Acetophenone	ug/L	1.0 U	0.34 J	0.35 J	1.0 U	1.0 U
Anthracene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Atrazine	ug/L	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U
Benzaldehyde	ug/L	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(a)pyrene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(b)fluoranthene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Benzo(k)fluoranthene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	5.0 U	0.11 J	0.13 J	5.0 U	5.0 U
bis(2-Chloroethoxy)methane	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5.0 U	5.3 U	0.77 J	5.0 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Caprolactam	ug/L	10 U	11 U	11 U	10 U	10 U
Carbazole	ug/L	10 U	11 U	11 U	5.0 U	5.0 U
Chrysene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Dibenzofuran	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Diethyl phthalate	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
Dimethyl phthalate	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Fluoranthene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Fluorene	ug/L	5.0 U	0.32 J	0.34 J	5.0 U	5.0 U
Hexachlorobenzene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Hexachlorobutadiene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Hexachlorocyclopentadiene	ug/L	20 U	21 U	21 U	5.0 U	5.0 U
Hexachloroethane	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Isophorone	ug/L	0.51 J	5.3 U	5.3 U	5.0 U	5.0 U
Naphthalene	ug/L	5.0 U	0.49 J	0.58 J	5.0 U	5.0 U
Nitrobenzene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
N-Nitrosodiphenylamine	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Pentachlorophenol	ug/L	R	21 U	21 U	5.0 U	5.0 U
Phenanthrene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U
Phenol	ug/L	R	1.7 J	1.6 J	5.0 U	5.0 U
Pyrene	ug/L	5.0 U	5.3 U	5.3 U	5.0 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***	***MW51-12***
Sample Identification:		***WG-017360-042214-MR-061***	***WG-017360-101514-MR-044***	***WG-017360-101514-MR-045***	***WG-017360-041515-MR-044***	***WG-017360-041515-MR-045***
Sample Date:		***4/22/2014***	***10/15/2014***	***10/15/2014***	***4/15/2015***	***4/15/2015***
Sample Type:				***Duplicate***		***Duplicate***
Segment Depth:		***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***	***(17-27) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-	-
Total PCBs	ug/L	-	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***
Sample Identification:		***GW-17360-110212-BW-199***	***WG-17360-050313-MR-039***	***WG-17360-110513-EB-054***	***WG-17360-110513-EB-055***	***WG-017360-042214-MR-059***
Sample Date:		***11/2/2012***	***5/3/2013***	***11/5/2013***	***11/5/2013***	***4/22/2014***
Sample Type:					***Duplicate***	
Segment Depth:		***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***
	Units					
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	50	14 J	3.5 J	--	4.0 J
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--
2-Hexanone	ug/L	11	50 U	50 U	--	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	26	50 U	4.3 J	--	5.5 J
Acetone	ug/L	190	50 U	13 J	--	35 J
Benzene	ug/L	0.81 J	1.0 U	1.0 U	--	0.37 J
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.2	5.0 U	5.0 U	--	5.0 U
Carbon disulfide	ug/L	0.57 J	5.0 U	5.0 U	--	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Chloroethane	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
Chloroform (Trichloromethane)	ug/L	0.58 J	1.0 U	1.0 U	--	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
cis-1,2-Dichloroethene	ug/L	0.18 J	1.0 U	1.0 U	--	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	--	1.0 U
Dibromochloromethane	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
Ethylbenzene	ug/L	0.94 J	1.8	1.9	--	2.2
Isopropyl benzene	ug/L	4.8	2.0 J	2.8 J	--	2.6 J
Methyl acetate	ug/L	5.0 U	10 U	10 U	--	10 U
Methyl cyclohexane	ug/L	5.0 U	1.0 U	1.0 U	--	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
Methylene chloride	ug/L	1.0 U	5.0 U	5.0 U	--	5.0 U
Styrene	ug/L	3.8	3.2	1.3	--	0.68 J
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW52-12*	*MW52-12*	*MW52-12*	*MW52-12*	*MW52-12*
Sample Identification:		*GW-17360-110212-BW-199*	*WG-17360-050313-MR-039*	*WG-17360-110513-EB-054*	*WG-17360-110513-EB-055*	*WG-017360-042214-MR-059*
Sample Date:		*11/2/2012*	*5/3/2013*	*11/5/2013*	*11/5/2013*	*4/22/2014*
Sample Type:					*Duplicate*	
Segment Depth:		*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*
	Units					
VOCs (continued)						
Toluene	ug/L	0.60 J	0.50 J	0.29 J	--	0.53 J
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U
Xylenes (total)	ug/L	9.2	2.1 J	1.6 J	--	3.0
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2,4,5-Trichlorophenol	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2,4,6-Trichlorophenol	ug/L	10 U	4.0 U	5.0 U	5.0 U	50 U
2,4-Dichlorophenol	ug/L	10 U	10 U	10 U	10 U	100 U
2,4-Dimethylphenol	ug/L	20 U	2.6 J	5.0 U	5.0 U	50 U
2,4-Dinitrophenol	ug/L	100 U	5.0 U	5.0 U	5.0 U	50 U
2,4-Dinitrotoluene	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2,6-Dinitrotoluene	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2-Chloronaphthalene	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2-Chlorophenol	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
2-Methylnaphthalene	ug/L	10 U	0.72 J	5.0 U	5.0 U	50 U
2-Methylphenol	ug/L	10 U	1.7 J	5.0 U	5.0 U	50 U
2-Nitroaniline	ug/L	10 U	20 U	20 U	20 U	200 U
2-Nitrophenol	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
3&4-Methylphenol	ug/L	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	20 U	1.0 U	5.0 U	5.0 U	50 U
3-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	200 U
4,6-Dinitro-2-methylphenol	ug/L	100 U	20 U	20 U	20 U	200 U
4-Bromophenyl phenyl ether	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
4-Chloro-3-methylphenol	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
4-Chloroaniline	ug/L	20 U	10 U	20 U	20 U	200 U
4-Chlorophenyl phenyl ether	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
4-Methylphenol	ug/L	10 U	0.98 J	1.3 J	5.0 U	50 U
4-Nitroaniline	ug/L	20 U	20 U	20 U	20 U	200 U
4-Nitrophenol	ug/L	100 U	20 U	20 U	20 U	200 U
Acenaphthene	ug/L	10 U	1.2 J	1.1 J	1.0 J	50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW52-12*	*MW52-12*	*MW52-12*	*MW52-12*	*MW52-12*
Sample Identification:		*GW-17360-110212-BW-199*	*WG-17360-050313-MR-039*	*WG-17360-110513-EB-054*	*WG-17360-110513-EB-055*	*WG-017360-042214-MR-059*
Sample Date:		*11/2/2012*	*5/3/2013*	*11/5/2013*	*11/5/2013*	*4/22/2014*
Sample Type:					*Duplicate*	
Segment Depth:		*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*
	Units					
SVOCs (continued)						
Acenaphthylene	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Acetophenone	ug/L	11	1.0 U	1.0 U	1.0 U	10 U
Anthracene	ug/L	10 U	1.0 J	1.6 J	0.83 J	50 U
Atrazine	ug/L	10 U	3.0 U	1.0 U	1.0 U	10 U
Benzaldehyde	ug/L	10 U	1.0 U	1.0 U	1.0 U	10 U
Benzidine	ug/L	--	--	--	--	--
Benzo(a)anthracene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Benzo(a)pyrene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Benzo(b)fluoranthene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Benzo(g,h,i)perylene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Benzo(k)fluoranthene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Biphenyl (1,1-Biphenyl)	ug/L	10 U	0.91 J	0.65 J	5.0 U	50 U
bis(2-Chloroethoxy)methane	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
bis(2-Chloroethyl)ether	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Butyl benzylphthalate (BBP)	ug/L	20 U	5.0 U	5.0 U	5.0 U	50 U
Caprolactam	ug/L	20 UJ	10 U	10 U	10 U	100 U
Carbazole	ug/L	10 U	10 U	10 U	1.9 J	100 U
Chrysene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Dibenz(a,h)anthracene	ug/L	10 U	2.0 U	5.0 U	5.0 U	50 U
Dibenzofuran	ug/L	10 U	1.1 J	0.85 J	1.1 J	50 U
Diethyl phthalate	ug/L	10 U	5.0	20 U	20 U	4.8 J
Dimethyl phthalate	ug/L	10 U	5.0 U	20 U	20 U	200 U
Di-n-butylphthalate (DBP)	ug/L	20 U	5.0 U	5.0 U	0.82 J	50 U
Di-n-octyl phthalate (DnOP)	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Fluoranthene	ug/L	10 U	1.0 U	5.0 U	1.1 J	50 U
Fluorene	ug/L	10 U	2.1 J	2.7 J	3.4 J	2.8 J
Hexachlorobenzene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Hexachlorobutadiene	ug/L	10 U	1.0 U	5.0 U	5.0 U	50 U
Hexachlorocyclopentadiene	ug/L	10 U	5.0 U	20 U	20 U	200 U
Hexachloroethane	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	2.0 U	5.0 U	5.0 U	50 U
Isophorone	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Naphthalene	ug/L	**14[c]**	**12[c]**	7.9	7.4	8.0 J
Nitrobenzene	ug/L	10 U	3.0 U	5.0 U	5.0 U	50 U
N-Nitrosodi-n-propylamine	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
N-Nitrosodiphenylamine	ug/L	10 U	5.0 U	5.0 U	5.0 U	50 U
Pentachlorophenol	ug/L	10 U	1.0 U	20 U	20 U	**61 J[abc]**
Phenanthrene	ug/L	10 U	1.2 J	**2.1 J[c]**	2.0 J	50 U
Phenol	ug/L	19	5.0 U	1.2 J	5.0 U	50 U
Pyrene	ug/L	10 U	1.1 J	5.0 U	5.0 U	50 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***
Sample Identification:		***GW-17360-110212-BW-199***	***WG-17360-050313-MR-039***	***WG-17360-110513-EB-054***	***WG-17360-110513-EB-055***	***WG-017360-042214-MR-059***
Sample Date:		***11/2/2012***	***5/3/2013***	***11/5/2013***	***11/5/2013***	***4/22/2014***
Sample Type:					***Duplicate***	
Segment Depth:		***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	0.20 UJ	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	0.20 UJ	-	-	-	-
Total PCBs	ug/L	ND	-	-	-	-

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***
Sample Identification:		***WG-017360-042214-MR-060***	***WG-017360-063014-MR-002***	***WG-017360-101514-MR-043***	***WG-017360-041515-MR-043***
Sample Date:		***4/22/2014***	***6/30/2014***	***10/15/2014***	***4/15/2015***
Sample Type:		***Duplicate***			
Segment Depth:		***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***
	Units				
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5.0 U	--	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	--	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	--	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	--	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	--	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	3.5 J	--	25 UJ	25 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--
2-Hexanone	ug/L	50 U	--	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.4 J	--	5.0 J	50 U
Acetone	ug/L	31 J	--	50 UJ	50 U
Benzene	ug/L	0.37 J	--	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	--	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	5.0 U	--	5.0 U	5.0 U
Carbon disulfide	ug/L	5.0 U	--	5.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	--	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	--	1.0 U	1.0 U
Chloroethane	ug/L	5.0 U	--	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	5.0 U	--	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	--	1.0 U	1.0 U
Cyclohexane	ug/L	1.0 U	--	1.0 U	1.0 U
Dibromochloromethane	ug/L	5.0 U	--	5.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	5.0 U	--	5.0 U	5.0 U
Ethylbenzene	ug/L	2.2	--	1.3	1.7
Isopropyl benzene	ug/L	2.7 J	--	1.5 J	2.3 J
Methyl acetate	ug/L	10 U	--	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	--	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	--	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	--	5.0 UJ	5.0 U
Styrene	ug/L	0.91 J	--	0.77 J	1.0 U
Tetrachloroethene	ug/L	1.0 U	--	1.0 U	1.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***
Sample Identification:		***WG-017360-042214-MR-060***	***WG-017360-063014-MR-002***	***WG-017360-101514-MR-043***	***WG-017360-041515-MR-043***
Sample Date:		***4/22/2014***	***6/30/2014***	***10/15/2014***	***4/15/2015***
Sample Type:		***Duplicate***			
Segment Depth:		***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***
	Units				
VOCs (continued)					
Toluene	ug/L	0.54 J	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	--	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	--	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	--	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	--	1.0 U	1.0 U
Xylenes (total)	ug/L	3.1	--	1.9 J	1.8 J
Semi-Volatile Organic Compounds (SVOCs)					
1,2,4-Trichlorobenzene	ug/L	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--
1,2-Diphenylhydrazine	ug/L	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	50 U	--	5.3 U	5.0 U
2,4,5-Trichlorophenol	ug/L	50 U	--	5.3 U	5.0 U
2,4,6-Trichlorophenol	ug/L	50 U	--	5.3 U	5.0 U
2,4-Dichlorophenol	ug/L	100 U	--	11 U	5.0 U
2,4-Dimethylphenol	ug/L	50 U	--	2.3 J	1.3 J
2,4-Dinitrophenol	ug/L	50 U	--	5.3 U	5.0 U
2,4-Dinitrotoluene	ug/L	50 U	--	5.3 U	5.0 U
2,6-Dinitrotoluene	ug/L	50 U	--	5.3 U	5.0 U
2-Chloronaphthalene	ug/L	50 U	--	5.3 U	5.0 U
2-Chlorophenol	ug/L	50 U	--	5.3 U	5.0 U
2-Methylnaphthalene	ug/L	50 U	--	0.21 J	5.0 U
2-Methylphenol	ug/L	50 U	--	5.3 U	5.0 U
2-Nitroaniline	ug/L	200 U	--	21 U	5.0 U
2-Nitrophenol	ug/L	50 U	--	5.3 U	5.0 U
3&4-Methylphenol	ug/L	--	--	--	5.0 U
3,3'-Dichlorobenzidine	ug/L	50 U	--	5.3 U	5.0 U
3-Nitroaniline	ug/L	200 U	--	21 U	5.0 U
4,6-Dinitro-2-methylphenol	ug/L	200 U	--	21 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	50 U	--	5.3 U	5.0 U
4-Chloro-3-methylphenol	ug/L	50 U	--	5.3 U	5.0 U
4-Chloroaniline	ug/L	200 U	--	21 U	5.0 U
4-Chlorophenyl phenyl ether	ug/L	50 U	--	5.3 U	5.0 U
4-Methylphenol	ug/L	50 U	--	5.3 U	--
4-Nitroaniline	ug/L	200 U	--	21 U	3.2 J
4-Nitrophenol	ug/L	200 U	--	21 U	5.0 U
Acenaphthene	ug/L	50 U	--	0.67 J	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		*MW52-12*	*MW52-12*	*MW52-12*	*MW52-12*
Sample Identification:		*WG-017360-042214-MR-060*	*WG-017360-063014-MR-002*	*WG-017360-101514-MR-043*	*WG-017360-041515-MR-043*
Sample Date:		*4/22/2014*	*6/30/2014*	*10/15/2014*	*4/15/2015*
Sample Type:		*Duplicate*			
Segment Depth:		*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*	*(16.7-26.7) ft BGS*
	Units				
SVOCs (continued)					
Acenaphthylene	ug/L	50 U	--	5.3 U	5.0 U
Acetophenone	ug/L	10 U	--	1.1 U	1.0 U
Anthracene	ug/L	50 U	--	0.96 J	5.0 U
Atrazine	ug/L	10 U	--	1.1 U	1.0 U
Benzaldehyde	ug/L	10 U	--	1.1 U	1.0 U
Benzidine	ug/L	--	--	--	--
Benzo(a)anthracene	ug/L	50 U	--	5.3 U	5.0 U
Benzo(a)pyrene	ug/L	50 U	--	5.3 U	5.0 U
Benzo(b)fluoranthene	ug/L	50 U	--	5.3 U	5.0 U
Benzo(g,h,i)perylene	ug/L	50 U	--	5.3 U	5.0 U
Benzo(k)fluoranthene	ug/L	50 U	--	5.3 U	5.0 U
Biphenyl (1,1-Biphenyl)	ug/L	50 U	--	0.57 J	5.0 U
bis(2-Chloroethoxy)methane	ug/L	50 U	--	5.3 U	5.0 U
bis(2-Chloroethyl)ether	ug/L	50 U	--	5.3 U	5.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	50 U	--	5.3 U	5.0 U
Butyl benzylphthalate (BBP)	ug/L	50 U	--	5.3 U	5.0 U
Caprolactam	ug/L	100 U	--	11 U	10 U
Carbazole	ug/L	100 U	--	0.74 J	5.0 U
Chrysene	ug/L	50 U	--	5.3 U	5.0 U
Dibenz(a,h)anthracene	ug/L	50 U	--	5.3 U	5.0 U
Dibenzofuran	ug/L	50 U	--	0.76 J	5.0 U
Diethyl phthalate	ug/L	200 U	--	21 U	5.0 U
Dimethyl phthalate	ug/L	200 U	--	21 U	5.0 U
Di-n-butylphthalate (DBP)	ug/L	50 U	--	5.3 U	5.0 U
Di-n-octyl phthalate (DnOP)	ug/L	50 U	--	5.3 U	5.0 U
Fluoranthene	ug/L	50 U	--	5.3 U	5.0 U
Fluorene	ug/L	3.3 J	--	2.3 J	2.0 J
Hexachlorobenzene	ug/L	50 U	--	5.3 U	5.0 U
Hexachlorobutadiene	ug/L	50 U	--	5.3 U	5.0 U
Hexachlorocyclopentadiene	ug/L	200 U	--	21 U	5.0 U
Hexachloroethane	ug/L	50 U	--	5.3 U	5.0 U
Indeno(1,2,3-cd)pyrene	ug/L	50 U	--	5.3 U	5.0 U
Isophorone	ug/L	50 U	--	5.3 U	5.0 U
Naphthalene	ug/L	7.8 J	--	6.5	5.0 J
Nitrobenzene	ug/L	50 U	--	5.3 U	5.0 U
N-Nitrosodi-n-propylamine	ug/L	50 U	--	5.3 U	5.0 U
N-Nitrosodiphenylamine	ug/L	50 U	--	5.3 U	5.0 U
Pentachlorophenol	ug/L	200 U	1.0 U	21 U	5.0 U
Phenanthrene	ug/L	50 U	--	1.3 J	5.0 U
Phenol	ug/L	50 U	--	0.72 J	5.0 U
Pyrene	ug/L	50 U	--	5.3 U	5.0 U

Groundwater Sample Analytical Results
Summary of LNAPL Evaluation Activities
Former Grand Rapids Metal Plant
Wyoming, Michigan

Sample Location:		***MW52-12***	***MW52-12***	***MW52-12***	***MW52-12***
Sample Identification:		***WG-017360-042214-MR-060***	***WG-017360-063014-MR-002***	***WG-017360-101514-MR-043***	***WG-017360-041515-MR-043***
Sample Date:		***4/22/2014***	***6/30/2014***	***10/15/2014***	***4/15/2015***
Sample Type:		***Duplicate***			
Segment Depth:		***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***	***(16.7-26.7) ft BGS***
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	-	-	-	-
Aroclor-1221 (PCB-1221)	ug/L	-	-	-	-
Aroclor-1232 (PCB-1232)	ug/L	-	-	-	-
Aroclor-1242 (PCB-1242)	ug/L	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/L	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/L	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/L	-	-	-	-
Total PCBs	ug/L	-	-	-	-

Attachment A
SME's Soil Sample Analytical Laboratory Report

Fibertec
environmental
services

Tuesday, May 15, 2012

Fibertec Project Number: 49973
Project Identification: Former GM Stamping Plant Wyoming,MI/064270.00.007
Submittal Date: 05/14/2012

Mr. Casey Smith
Soil and Materials Engineers, Inc. - Grand Rapids
4705 Clyde Park Avenue, SW
Grand Rapids, MI 49509-5114

Dear Mr. Smith,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

Samples were received at 10.6 degrees Celsius.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Daryl P. Strandbergh
Laboratory Director

DPS/kc

Enclosures

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.1**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**1**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87) **Aliquot ID: 49973-001A** **Matrix: Soil/Solid** **Analyst: BMG**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Percent Moisture (Water Content) (NN)	**12**		%	0.1	1.0	05/14/12	MC120514	05/15/12	MC120514

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) **Aliquot ID: 49973-001** **Matrix: Soil/Solid** **Analyst: JPL**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		µg/kg	1000	1.0	05/14/12	V912E14A	05/14/12	V912E14A
2. Acrylonitrile	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
3. Benzene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
4. Bromobenzene	U		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
5. Bromochloromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
6. Bromodichloromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
7. Bromoform	U		µg/kg	110	1.0	05/14/12	V912E14A	05/14/12	V912E14A
8. Bromomethane	U		µg/kg	200	1.0	05/14/12	V912E14A	05/14/12	V912E14A
9. 2-Butanone	U		µg/kg	750	1.0	05/14/12	V912E14A	05/14/12	V912E14A
10. n-Butylbenzene	**6100**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
11. sec-Butylbenzene	**2300**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
12. tert-Butylbenzene	U		µg/kg	280	10	05/14/12	V912E14A	05/14/12	V912E14A
13. Carbon Disulfide	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
14. Carbon Tetrachloride	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
15. Chlorobenzene	U		µg/kg	57	1.0	05/14/12	V912E14A	05/14/12	V912E14A
16. Chloroethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
17. Chloroform	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
18. Chloromethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
19. 2-Chlorotoluene	U		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
20. Dibromochloromethane	U		µg/kg	110	1.0	05/14/12	V912E14A	05/14/12	V912E14A
21. 1,2-Dibromo-3-chloropropane (NN)	U		µg/kg	57	10	05/14/12	V912E14A	05/14/12	V912E14A
22. Dibromomethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
23. 1,2-Dichlorobenzene	U		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
24. 1,3-Dichlorobenzene	U		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
25. 1,4-Dichlorobenzene	U		µg/kg	280	10	05/14/12	V912E14A	05/14/12	V912E14A
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
29. 1,1-Dichloroethene	U		µg/kg	57	1.0	05/14/12	V912E14A	05/14/12	V912E14A
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
34. trans-1,3-Dichloropropene	U		µg/kg	57	1.0	05/14/12	V912E14A	05/14/12	V912E14A

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.1**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**1**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) **Aliquot ID: 49973-001** **Matrix: Soil/Solid** **Analyst: JPL**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
35. Ethylbenzene	**280**		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
36. Ethylene Dibromide	U		µg/kg	20	1.0	05/14/12	V912E14A	05/14/12	V912E14A
37. 2-Hexanone	U		µg/kg	2500	1.0	05/14/12	V912E14A	05/14/12	V912E14A
38. Isopropylbenzene	**630**		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
39. Methyl Iodide	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
40. Methylene Chloride	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
41. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	05/14/12	V912E14A	05/14/12	V912E14A
42. MTBE	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
43. Naphthalene	U		µg/kg	2800	10	05/14/12	V912E14A	05/14/12	V912E14A
44. n-Propylbenzene	**2200**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
45. Styrene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	280	10	05/14/12	V912E14A	05/14/12	V912E14A
48. Tetrachloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
49. Toluene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
50. 1,2,4-Trichlorobenzene	U		µg/kg	330	10	05/14/12	V912E14A	05/14/12	V912E14A
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
53. Trichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
54. Trichlorofluoromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
55. 1,2,3-Trichloropropane	U		µg/kg	570	10	05/14/12	V912E14A	05/14/12	V912E14A
56. 1,2,3-Trimethylbenzene (NN)	**14000**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
57. 1,2,4-Trimethylbenzene	**30000**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
58. 1,3,5-Trimethylbenzene	**8000**		µg/kg	140	10	05/14/12	V912E14A	05/14/12	V912E14A
59. Vinyl Chloride	U		µg/kg	40	1.0	05/14/12	V912E14A	05/14/12	V912E14A
60. Xylenes	**2300**		µg/kg	150	1.0	05/14/12	V912E14A	05/14/12	V912E14A

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3546/EPA 8270C) **Aliquot ID: 49973-001A** **Matrix: Soil/Solid** **Analyst: HLS**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
2. Acenaphthylene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
3. Anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
9. Chrysene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.1**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**1**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3546/EPA 8270C) **Aliquot ID: 49973-001A** **Matrix: Soil/Solid** **Analyst: HLS**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
11. Fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
12. Fluorene (SIM)	**1900**		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
14. 2-Methylnaphthalene (SIM)	**760**		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
15. Phenanthrene (SIM)	**2700**		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A
16. Pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S612E13A

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.2**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**2**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Dry Weight Determination (ASTM D 2974-87) **Aliquot ID: 49973-002A** **Matrix: Soil/Solid** **Analyst: BMG**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Percent Moisture (Water Content) (NN)	**11**		%	0.1	1.0	05/14/12	MC120514	05/15/12	MC120514

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) **Aliquot ID: 49973-002** **Matrix: Soil/Solid** **Analyst: JPL**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acetone	U		µg/kg	1000	1.0	05/14/12	V912E14A	05/14/12	V912E14A
2. Acrylonitrile	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
3. Benzene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
4. Bromobenzene	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
5. Bromochloromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
6. Bromodichloromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
7. Bromoform	U		µg/kg	110	1.0	05/14/12	V912E14A	05/14/12	V912E14A
8. Bromomethane	U		µg/kg	200	1.0	05/14/12	V912E14A	05/14/12	V912E14A
9. 2-Butanone	U		µg/kg	750	1.0	05/14/12	V912E14A	05/14/12	V912E14A
10. n-Butylbenzene	**240**		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
11. sec-Butylbenzene	**130**		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
12. tert-Butylbenzene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
13. Carbon Disulfide	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
14. Carbon Tetrachloride	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
15. Chlorobenzene	U		µg/kg	56	1.0	05/14/12	V912E14A	05/14/12	V912E14A
16. Chloroethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
17. Chloroform	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
18. Chloromethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
19. 2-Chlorotoluene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
20. Dibromochloromethane	U		µg/kg	110	1.0	05/14/12	V912E14A	05/14/12	V912E14A
21. 1,2-Dibromo-3-chloropropane (NN)	U		µg/kg	10	1.0	05/14/12	V912E14A	05/14/12	V912E14A
22. Dibromomethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
29. 1,1-Dichloroethene	U		µg/kg	56	1.0	05/14/12	V912E14A	05/14/12	V912E14A
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
34. trans-1,3-Dichloropropene	U		µg/kg	56	1.0	05/14/12	V912E14A	05/14/12	V912E14A

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.2**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**2**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B) **Aliquot ID: 49973-002** **Matrix: Soil/Solid** **Analyst: JPL**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
35. Ethylbenzene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
36. Ethylene Dibromide	U		µg/kg	20	1.0	05/14/12	V912E14A	05/14/12	V912E14A
37. 2-Hexanone	U		µg/kg	2500	1.0	05/14/12	V912E14A	05/14/12	V912E14A
38. Isopropylbenzene	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
39. Methyl Iodide	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
40. Methylene Chloride	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
41. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	05/14/12	V912E14A	05/14/12	V912E14A
42. MTBE	U		µg/kg	250	1.0	05/14/12	V912E14A	05/14/12	V912E14A
43. Naphthalene	U		µg/kg	330	1.0	05/14/12	V912E14A	05/14/12	V912E14A
44. n-Propylbenzene	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
45. Styrene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
48. Tetrachloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
49. Toluene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
50. 1,2,4-Trichlorobenzene	U		µg/kg	330	1.0	05/14/12	V912E14A	05/14/12	V912E14A
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
53. Trichloroethene	U		µg/kg	50	1.0	05/14/12	V912E14A	05/14/12	V912E14A
54. Trichlorofluoromethane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
56. 1,2,3-Trimethylbenzene (NN)	U		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
57. 1,2,4-Trimethylbenzene	**1000**		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
58. 1,3,5-Trimethylbenzene	**470**		µg/kg	100	1.0	05/14/12	V912E14A	05/14/12	V912E14A
59. Vinyl Chloride	U		µg/kg	40	1.0	05/14/12	V912E14A	05/14/12	V912E14A
60. Xylenes	U		µg/kg	150	1.0	05/14/12	V912E14A	05/14/12	V912E14A

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3546/EPA 8270C) **Aliquot ID: 49973-002A** **Matrix: Soil/Solid** **Analyst: HLS**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Acenaphthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
2. Acenaphthylene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
3. Anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
9. Chrysene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A

Client Identification:	**Soil and Materials Engineers, Inc. - Grand Rapids**	Sample Description:	**AREA 9.2**	Chain of Custody:	**106959**
Client Project Name:	**Former GM Stamping Plant**	Sample No:	**2**	Collect Date:	**05/12/12**
Client Project No:	**064270.00.007**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3546/EPA 8270C) **Aliquot ID: 49973-002A** **Matrix: Soil/Solid** **Analyst: HLS**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
11. Fluoranthene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
12. Fluorene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
15. Phenanthrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A
16. Pyrene (SIM)	U		µg/kg	330	20	05/14/12	PS12E14F	05/15/12	S712E15A

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QA limits

Exception Summary:

ACCREDITED IN ACCORDANCE WITH nelac

Accreditation Number:

E-10395

Fibertec
environmental
services

May 15, 2012

Case Narrative

Customer: SME
Project Identification: Former GM Metal Stamping Plant/064270.00.007
Fibertec Project Number: 49973

Sample Collection/ Receipt
The following samples were collected on May 12, 2012 and received by Fibertec on May 14, 2012.
2 Soil Samples
All samples were received on ice at 10.6° Celsius and in good condition.

Analysis
Analyses were conducted in accordance with chain of custody and within hold times.

All applicable quality assurance / quality control parameters were within acceptance limits unless otherwise noted.

The following were reported with elevated reporting limits

Laboratory Number	Sample ID	Analysis	Reason for elevated RL
49973-001	Area 9.1	Volatiles	Sample Matrix

Sample data has been reviewed, and reported results remain valid.

Kylenn Crandall
Authorized Signature

5-15-12
Date

1914 Holloway Drive Holt, Michigan 48842
11766 Grand River Brighton, Michigan 48116
Telephone: (517) 699-0345
Telephone: (810) 220-3300
Facsimile: (517) 699-0388
Facsimile: (810) 220-3311

Fibertec environmental services

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fibertec.us

Geoprobe
11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 106959
PAGE 1 of 1

Client Name: SME
Contact Person: Casey Smith
Project Name/ Number: Former GM Metal Stamping Plant Wyoming, MI 064270.00.007
Purchase Order#

Lab Sample #	Date	Time	Client Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PRESERVED (Y/N)	PARAMETERS: VOCs	PARAMETERS: PAHs
	5-12-12	800	1	AREA [redacted] 9.1	S	2-4		X	X
	5-12-12	830	2	AREA [redacted] 9.2	S	2-4		X	X

Turnaround: X 24 hour RUSH (surcharge applies); 48 hour RUSH (surcharge applies); 72 hour RUSH (surcharge applies); Standard (5-7 bus. days); Other: Specify
Remarks:

Matrix Code: S Soil; W Water; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Comments: *samples exhibit a solvent-type odor

Relinquished By:	Date/ Time	Received By:
[signature]	5/12/12 900	SME Sample storage
[signature]	5/14/12 10:50	April P. Haney
April P. Haney	5/14 12:32	Received By Laboratory: [signature] Hidalgo

LAB USE ONLY:
Fibertec project number:
Laboratory Tracking: 49473
Temperature at Receipt: ICE 10.6°c

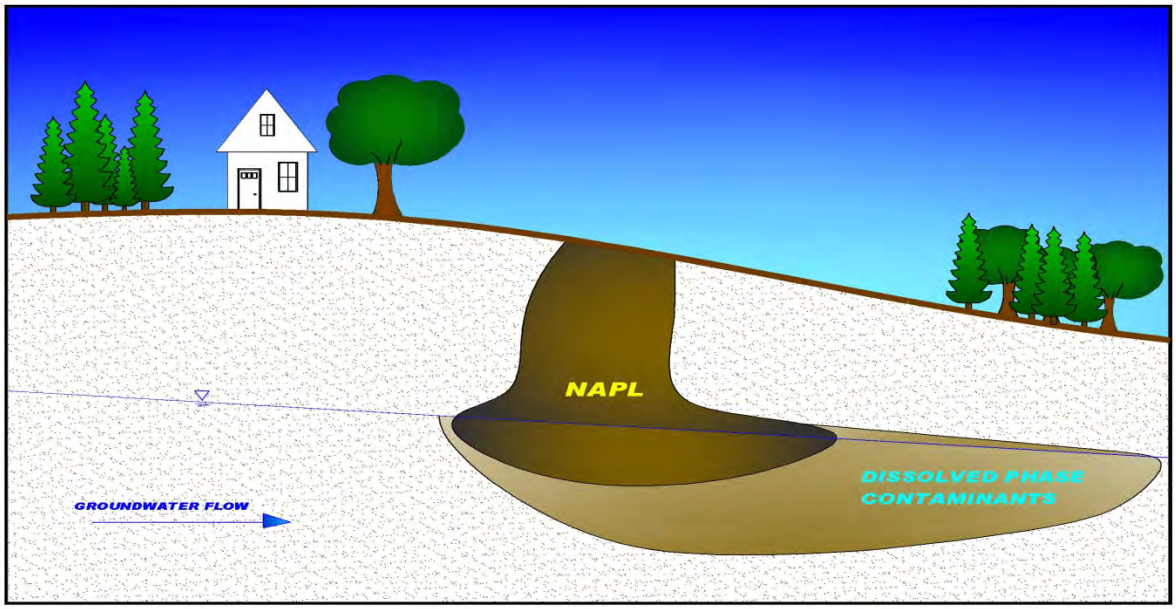
RCVD ON

TERMS & CONDITIONS ON BACK

Attachment B
MDEQ NAPL Characterization, Remediation, and Management for Petroleum Releases Resource Document

NON-AQUEOUS PHASE LIQUID (NAPL) CHARACTERIZATION, REMEDIATION, AND MANAGEMENT FOR PETROLEUM RELEASES

REMEDIATION AND REDEVELOPMENT DIVISION RESOURCE MATERIALS



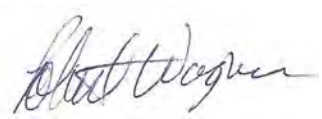
Prepared by:
Michigan Department of Environmental Quality
Remediation and Redevelopment Division
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In order to promote a consistent and informed approach for Michigan Department of Environmental Quality (MDEQ) staff, this document was developed to provide information to MDEQ staff and contractors for characterizing, remediating and managing non-aqueous phase liquids (NAPL) related to petroleum releases.

This document is available as a technical reference to assist any party conducting investigations and evaluating NAPL associated with petroleum releases to support recovery and risk management decisions.

This document is explanatory and does not contain any regulatory requirements. It does not establish or affect the legal rights or obligations for petroleum NAPL management. It does not have the force or effect of law and is not legally binding on the public or the regulated community. Any regulatory decisions made by the MDEQ regarding NAPL management related to petroleum releases will be made by applying the governing statutes and Administrative Rules to relevant facts.



Approved: _____

Robert Wagner, Chief
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June 24, 2014

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SUMMARY

This document is provided as a resource for MDEQ staff and other environmental professionals working on characterizing, remediating, evaluating risk, and managing non-aqueous phase liquids (NAPL) resulting from releases of petroleum products to the environment.

The state of Michigan has thousands of sites that are contaminated with petroleum NAPL. These petroleum-based liquids have limited solubility in water and can degrade over time, but typically will remain in the subsurface for many years. The presence of NAPL in the subsurface can lead to unacceptable risks to human health and the environment if improperly characterized, remediated, and/or managed. However, unacceptable risks can be avoided using appropriate management practices that will reduce NAPL toxicity, remove constituents of concern, recover the NAPL, and/or prevent exposures. Characterization of the NAPL, both chemically and geographically, and the identification of all associated risks is critical for developing a conceptual site model (CSM) and implementing an effective and efficient remedial and management strategy. Conceptual site models (CSM) are communication tools that can provide a clear understanding of the characterization, site conditions, and risks.

In some cases, recovery or remediation of the NAPL is necessary to abate risks. The NAPL management decisions will be risk-based, but if mobile NAPL is present at a site and can be easily recovered in an efficient and cost effective manner, then the MDEQ encourages recovery of the NAPL wherever feasible. Recoverability analyses can aid in the decision making and have been demonstrated to be beneficial for determining how much NAPL may be removed and what remedial strategy may be most effective.

The factors outlined above are also important in achieving the goal of closure or no further action for a petroleum release. When the geographic location, chemical composition, and risk posed by the petroleum NAPL are well characterized and documented with a CSM, the resulting risk-based decision making is more protective, efficient, and cost effective.

1.0 INTRODUCTION

The non-aqueous phase liquid (NAPL) and management approaches referred to throughout this document are limited to only petroleum. Petroleum and petroleum compounds are commonly used in many industries and applications across the state. Given their widely-used nature, petroleum releases have occurred from a multitude of sources. Sources of petroleum releases include, but are not limited to, releases from oil and gas exploration and production, bulk storage, refining operations, retail sales (underground storage tanks), pipelines, home heating tanks, and industrial/manufacturing operations. Thousands of sites across the state of Michigan have documented releases of petroleum NAPL to the environment that will need to be addressed under statutory requirements, which includes the proper characterization, remediation, and/or management of the NAPL so that it does not pose an unacceptable risk to human health and the environment.

The scope of this document is to describe concepts for NAPL management. The document, in general terms, is broken into the following categories for NAPL management:

- *NAPL and Management Concepts*
- *NAPL Characterization*
- *Conceptual Site Model (CSM)*
- *Risk Assessment*
- *Recovery and Recoverability*
- *Site Closure*

It is not the intent of this document to provide a detailed discussion of every NAPL concept or strategy. A list of selected references, some of which provide a more thorough discussion of the concepts presented in this document, is presented in Appendix A.

In addition, a number of technical terms are used throughout this document when describing various aspects of NAPL assessment and management; this also includes terms used in certain statutes. A glossary of these and other commonly used terms and their definitions/applications are contained in Appendix B. Finally, the information contained in this document reflects basic concepts that are applicable to sites where only petroleum releases have occurred and reflect typical approaches to NAPL management. These approaches and concepts were reviewed by a number of external stakeholders and environmental professionals and where applicable, the comments were incorporated into this document. Appendix C is a list of external stakeholders whose review was sought for the development of this document.

2.0 NAPL and MANAGEMENT CONCEPTS

Basic NAPL concepts have been adapted from publications and training prepared by the Interstate Technology & Regulatory Council (ITRC) and ASTM International (ASTM). More detail on basic NAPL concepts is included in Appendix D.

The NAPL Management Strategy is based on three primary concepts:

1) The presence of NAPL should be assumed when there is a known release of petroleum **AND/OR** sustained subsurface petroleum contamination is detected (e.g. sustained vapor or groundwater plumes) **AND/OR** NAPL has been visually observed (e.g. accumulating in a well or excavation). In general, if NAPL was released at a site ("site" in this document is a general term), it is likely present as residual, mobile, and/or migrating NAPL.

2) There are two general stages in the development of the NAPL body after a release: i) the initial or expansion stage, which is generally relatively short in duration after the release has stopped, when the NAPL is actively migrating under a sufficient NAPL gradient; and ii) a stable stage, which is much longer in duration, when migration is minimal to nonexistent after the hydraulic forces driving lateral NAPL migration have declined relative to counteractive mechanisms (e.g. entry pressures, decreasing gradient, etc.) (MPCA, 2010).

3) The NAPL body may act as a long-term origin of chemicals of concern (COC) for the aqueous (dissolved) and vapor phases, referred to as compositional plumes. The NAPL body generally contains much more COC mass than is present in the dissolved and vapor phase, and contains a finite mass of COC. The dissolution or volatilization of the COC from the NAPL body into other phases is the primary mechanism by which most NAPL bodies create unacceptable risks over time. Dissolution, volatilization, and biodegradation, collectively known as natural source zone depletion (NSZD), of COCs from the NAPL body will also deplete the finite over time. The NAPL body may also occasionally release secondary contaminants under certain conditions (e.g. methane), which may result in unacceptable risks.

3.0 NAPL CHARACTERIZATION

The NAPL body and any associated compositional plumes (e.g. soil gas, groundwater) will need to be adequately delineated so that migration can be detected to determine plume stability and all risks, both saturational and compositional conditions can be evaluated (ASTM, 2007, Section 3; ITRC, 2009a, Section 3; ITRC, 2009b, Sections 3 and 4). The composition of the NAPL will need to be determined so appropriate investigative techniques, analytical methods, and risk assessments can be implemented (ASTM 2007, Section 6). NAPL characterization can be accomplished either by conventional means or more modern approaches. Conventional means of investigation include drilling accompanied by soil and groundwater sampling; a contemporary approach may include an ultraviolet optical screening tool/laser-induced fluorescence (LIF).

The risk assessment at a site generally requires conventional investigative means to compare concentrations of COCs to risk-based screening levels, and/or generic criteria. Other conventional means of characterization such as analysis of soil for total petroleum hydrocarbons (TPH), gasoline range organics (GRO), diesel range organics (DRO), and/or oil range organics (ORO), can be useful because they allow estimation of the degree of NAPL saturation at a specific, three-dimensional location. Refer to Table 1 below for GRO and DRO concentrations that may be used for screening purposes with soil samples or as a line of evidence. Screening concentrations have not been developed for ORO; however, site specific screening values can be developed using the individual soil and NAPL properties and possibly other lines of evidence. GRO and DRO concentrations greater than those in Table 1 are not automatic indicators of the presence of NAPL or the presence of an unacceptable risk. Additional lines of evidence may be used to determine the presence or absence and/or potential risks posed by the NAPL. These additional lines of evidence can be collected in conjunction with or in lieu of the TPH sampling. There is no prescriptive approach to site characterization because each site and release is unique. Previous site information, geologic and hydraulic information, and release information should guide the characterization phase.

Table 1 – GRO and DRO Screening Levels

Material Released / NAPL	Use / Screening Purpose	GRO Concentration (mg/kg)	DRO Concentration (mg/kg)
Gasoline	NAPL not present	≤ 250	N/A
Gasoline	Soil Volatilization to Indoor Air Criteria Applicable	≤ 350	N/A
Gasoline	<0.5% Saturation for Direct Contact	≤ 900	N/A
Diesel	NAPL not present	N/A	≤ 20
Diesel	Soil Volatilization to Indoor Air Criteria Applicable	N/A	≤ 500
Diesel	<0.5% Saturation for Direct Contact	N/A	≤ 1,050

Regardless of the characterization methods used at a particular site, once characterization is complete, it should be evident where the NAPL is located (including below the water table) and its state (residual, mobile, and/or migrating). The presence or absence of NAPL is best determined by multiple lines of evidence. However, one line of evidence is not necessarily superior to another. The weight given to a particular line of evidence would be based on the type of NAPL released and the unique site conditions. Upon completion of the investigation, the location, nature, and extent of the compositional plumes would be well understood.

4.0 NAPL CONCEPTUAL SITE MODEL

It is imperative in risk-based decision making that an adequate CSM is developed and utilized. The ASTM *Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Non-aqueous Phase Liquids Released to the Subsurface* (ASTM 2531) was created to guide the development of a CSM for NAPL. As outlined in ASTM 2531, the CSM is developed using site data for the purpose of assessing risks at a site. Some examples of items to include in a CSM are depth to groundwater, location of the NAPL body, locations of any and all receptors, dissolved phase (groundwater) plume location, and vapor plume locations. For a detailed outline, list of elements commonly incorporated in a CSM, and discussion of the CSM development, refer to ASTM E2531-06 (Sections 6 and 7). The CSM is a dynamic document. As additional data is collected, the data is evaluated in the context of the CSM and appropriate modifications are made to the CSM as needed (ASTM, 2007, Sections 3.1.19.1 and 4.1). The CSM for each release and each site will be unique. The CSM could be developed using existing site data, or it may require new data collection to adequately characterize and understand the risks posed by the release. The land use and the potential risks posed by a site will determine the precision and amount of data necessary to complete the CSM. The CSM, at a minimum, can be made up of **tables** summarizing soil and groundwater contamination and groundwater elevations; **text** describing and summarizing the data and data collection; **boring logs** with lithology, field screening information (e.g. photoionization detector), and any relevant field observations; **hydrographs** showing the NAPL thickness in wells vs. corrected groundwater elevations (if mobile NAPL is observed at a site) and dissolved phase concentrations vs. groundwater elevations; **plan view maps** showing the NAPL body, contaminant distribution, groundwater elevation,

current/future buildings, property boundaries, and other potential receptors; and **cross-sectional maps** showing the NAPL body, groundwater elevations, lithology, contaminant distribution, and potential receptors. The CSM is also useful for identifying any data gaps and evaluating the potential effect they may have on site decision making.

The development and submission of a site-specific CSM improves the understanding of site conditions, potential receptors, and risks and serves as an excellent tool for communicating this information to all parties and stakeholders involved in site decisions. Graphical representations of the CSM are a very efficient way to depict the site and any associated risks. The use of three-dimensional data visualization software (e.g. fence diagrams) and/or volume/mass calculators (e.g. API's LNAPL Distribution and Recovery Model) may also be useful tools for the CSM.

5.0 NAPL RISK ASSESSMENT

Once the site is adequately characterized and a site-specific CSM is developed, the important steps of identifying and evaluating the saturational (e.g. presence of migrating NAPL) and compositional risks (e.g. soil gas or groundwater contaminant plumes) follows. This step is useful for identifying any unacceptable risks that would require some type of recovery, remediation, mitigation, exposure control, and/or other means necessary to abate risk(s).

Generic risk-based screening levels (RBSLs) and cleanup criteria have been developed to evaluate potential compositional risks for individual hazardous associated with various exposure pathways. Development of the generic RBSLs and cleanup criteria are based on assumptions regarding exposures, soil and site conditions, and the environmental fate-and-transport of contaminants. Generally, these assumptions do not account for the presence of NAPL in the soils at a site. However, the RBSLs and cleanup criteria may be used to assess risks at sites with NAPL present, but with certain pathways (direct contact and soil volatilization to indoor air) appropriate lines of evidence are necessary to determine applicability.

For exposure pathways that evaluate risk associated with the volatilization of hazardous substances from soil, the absence of NAPL was assumed in the calculations of the RBSLs and cleanup criteria. However, soil analytical data can be compared to the soil volatilization to indoor air inhalation criteria (SVIIC) if either NAPL is not present at that three dimensional location or there is a relatively minor amount of NAPL in the soil so that it can be assumed that aerobic degradation of the petroleum vapors in the soil can occur. Generic SVIIC RBSLs or cleanup criteria may be appropriate for use when GRO concentrations are less than 350 mg/kg for a gasoline release and when DRO concentrations are less than 500 mg/kg for a diesel release and mobile NAPL is not present at that location.

If the concentrations are less than SVIIC and they are applicable (consistent with all assumptions used to calculate the RBSLs or criteria), then no further investigative actions are needed even if residual NAPL is known to exist in the area proximal to the location of evaluation. If mobile NAPL is known to exist in the area proximal to the location of evaluation, then a site-specific risk evaluation would be necessary to evaluate the risk. For a risk assessment of indoor air when NAPL is known to exist, the use of direct measurements (e.g. soil gas) is better and more reliable to assure the protection of public health, especially when the generic assumptions used to calculate criteria are not representative of the site conditions. For the ambient air pathway, if the soil concentrations are lower than the criteria, the assessment is complete. The CSM can be utilized to evaluate the pathways, determine where generic criteria are applicable, and/or determine the need for additional data collection. Additional information regarding vapor intrusion assessment at NAPL sites is provided in Appendix E.

Soil direct contact RBSLs and cleanup criteria may not be appropriate for risk evaluation when mobile NAPL is present and when greater than 0.5% of the soil pore space contains residual NAPL (a degree of saturation that at or below can be reliably assumed to always be residual). Also, at or below this degree of NAPL saturation, this amount of NAPL in the soil is not expected to be significant enough to physically change the soil properties assumed in the direct contact algorithm (e.g. adhesion to skin and intestinal absorption). If the saturation of NAPL in the soil exceeds 0.5% in the pore space or mobile NAPL is present, then the assumption is that a direct contact risk is present at that location unless a site-specific evaluation demonstrates otherwise. The CSM can be utilized to evaluate the pathway, determine the need for additional data collection, and/or conduct a site-specific risk evaluation. Additional information regarding direct contact pathway evaluation at NAPL sites is provided in Appendix F.

6.0 NAPL RECOVERY AND RECOVERABILITY

The most cost-effective and efficient way to address new releases is to immediately recover as much NAPL as technically feasible when it is discovered. Generally, practical experience has demonstrated that this will provide the greatest amount of recovery, reduce risk, and save time and money for all parties involved. Once recovery of NAPL associated with a new release is complete, processes outlined in this document may be used to evaluate whether additional recovery is needed, what the threshold for recoverability may be for that release, and aid in the determination of the management practices for the remaining NAPL.

At sites where NAPL is present (which is the majority of sites where NAPL was released), conducting a recoverability analysis allows for better site decisions to be made. A recoverability analysis, which can be conducted for all NAPL, including residual, is a useful tool for determining the quantity of NAPL that may be recovered (hydraulic, excavation, etc.) as well as reviewing recoverability as a part of the overall site and risk assessment. For the recoverability analysis to be the most useful, it should take into account the feasibility of NAPL recovery, current and potential future risks posed by the NAPL, current and future land uses, and other pertinent site factors. Environmental factors, such as the potential seasonal changes in recoverability may make data from multiple events or during different seasons necessary to identify any seasonal affects and complete the analysis (e.g. NAPL could be recoverable during periods of low groundwater elevation and not recoverable during wet seasons with high groundwater elevations). Scientific studies, experience, and risk assessment have shown that in many cases all NAPL cannot be recovered and, in some instances, no recovery is necessary. Consistent with all risk-based corrective actions, if the NAPL (any states) and/or associated COC pose an unacceptable risk (e.g. expanding soil gas and groundwater plumes, threatened receptors, etc.), then the portion of the NAPL body or COCs creating the risk will have to be addressed via removal, destruction, toxicity reduction, and/or exposure elimination (e.g. institutional controls). For exposure elimination to be a feasible option, the NAPL body and all compositional plumes should be stable.

If mobile NAPL is present at a thickness greater than 0.2 feet in monitoring wells, transmissivity testing is a suitable tool to help determine recoverability. NAPL transmissivity is an indicator of the ability of the NAPL to flow in the subsurface and is a function of both the media and the NAPL properties. For more information on NAPL transmissivity, see ASTM E2856-11, *Standard Guide for Estimation of LNAPL Transmissivity*. In general, if the transmissivity of the NAPL is greater than 0.5 ft^2/day, recovery is beneficial to reduce the saturation and the ability of the NAPL to flow and the NAPL can be recovered

in a cost effective and efficient manner. However, a demonstration may be made to show that recovery may not be necessary if the NAPL and risks can be appropriately managed.

Factors that comprise a recovery demonstrations may include, but would not be limited to, composition of the NAPL, net benefit of NAPL recovery (e.g. environmental and/or societal), costs, distance to property boundaries, distance to nearest receptors, plume stability, and uncertainties. See ASTM 2531-06 Section 7.12 and ITRC 2009b Section 4 for descriptions of NAPL recovery metrics. The metric of transmissivity for NAPL recovery is a secondary metric and would be utilized after the risks are adequately abated, removed, and/or managed since the primary metric for remediation, exposure elimination, and recovery will be determined by the risks at a site. In some cases, the recovery of NAPL that results in transmissivity below 0.5 ft^2/day may not reduce the risks at a site; however, this will likely reduce the length of time it takes for a site to attenuate (reduce the legacy of the site). Both ASTM and ITRC guidance advocate for setting sound NAPL remedial objectives consistent with a CSM, using a systematic, science-based approach to select the most suitable NAPL remediation technology(ies), and implementing the technology(ies) to the fullest benefit (ASTM, 2007, Section 7.5; ITRC, 2009b, Section 1.5).

Federal law, 40 CFR 280.64, requires NAPL recovery to the "maximum extent practicable" (determined by the implementing agency) with a minimum standard of minimizing migration. The MDEQ interprets "maximum extent practicable" to mean the recovery of all NAPL that can be recovered in a cost-effective and efficient manner. Again, if the NAPL has a transmissivity greater than 0.5 ft^2/day, it is likely that the NAPL can be recovered in a cost-effective and efficient manner unless a demonstration is made to show otherwise. If migrating NAPL is present at a site, recovery and/or containment are necessary to stop or prevent migration.

7.0 NAPL AND NO FURTHER ACTION OR CLOSURE

No further action or closure is achievable at sites where residual and/or mobile NAPL are present and risks are abated or managed. Demonstration that risks are appropriately abated or managed include the following: 1) recoverable NAPL has been recovered to the "maximum extent practicable;" 2) all unacceptable risks (e.g. expanding plumes, exposed or threatened receptors) have been abated; and 3) proper institutional controls are recorded on the deed, if necessary, to notify current and future property owners of the presence of NAPL and to ensure that land use changes do not alter site conditions without proper evaluation. Providing data for these demonstrations that clearly indicate all plumes and the NAPL body are stable or decreasing in size and mass will generally allow for a more efficient and expedited review of the documentation. The amount and timing of the data, as well as the length of time required for monitoring, is dependent upon the risks, the proximity to potential receptors, and the proximity to property boundaries.

Since the environment is dynamic, there may be some expected transient or seasonal expansions and contractions in plume sizes. Any transient expansions should be insignificant when compared to the distance to receptors and property boundaries. Risk-based assessments for sites with mobile NAPL may be more complex with additional data collected that is necessary to support the conclusions, account for potential uncertainties, and assure that the risks are properly managed. However, the data necessary to support risk abatement and management are based on site-specific conditions and are most effectively communicated in a clear, concise CSM.

Appendix A.

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Appendix B.

Definitions/Terminology

The following terms are defined and if used for assessment, correspondence, and documentation of petroleum release sites regulated under NREPA will aid in clearer communions. When appropriate, a brief discussion of how these terms relate to light NAPL (LNAPL) or petroleum NAPL follows the definition (Note – The Part 213 statutory definitions are in all **CAPS** and **BOLD** text).

- **NAPL --** ***MEANS A NONAQUEOUS-PHASE LIQUID OR A NONAQUEOUS-PHASE LIQUID SOLUTION COMPOSED OF 1 OR MORE ORGANIC COMPOUNDS THAT ARE IMMISCIBLE OR SPARINGLY SOLUBLE IN WATER. NAPL INCLUDES BOTH DNAPL AND LNAPL.***

- **LNAPL --** ***MEANS A LIGHT NONAQUEOUS-PHASE LIQUID HAVING A SPECIFIC GRAVITY LESS THAN 1 AND COMPOSED OF 1 OR MORE ORGANIC COMPOUNDS THAT ARE IMMISCIBLE OR SPARINGLY SOLUBLE IN WATER, AND THE TERM ENCOMPASSES ALL POTENTIAL OCCURRENCES OF LNAPL.***

    - This term addresses all states of LNAPL. It should only be used conceptually and generically in regards to LNAPL issues. Use of this term in lieu of the term free product should be avoided and instead the more descriptive terms residual LNAPL, mobile LNAPL, and migrating LNAPL should be applied.

- **'MIGRATING NAPL' – MEANS** ***NAPL THAT IS OBSERVED TO SPREAD OR EXPAND LATERALLY OR VERTICALLY OR OTHERWISE RESULT IN AN INCREASED VOLUME OF THE NAPL EXTENT, USUALLY INDICATED BY TIME-SERIES DATA OR OBSERVATION. MIGRATING NAPL DOES NOT INCLUDE NAPL THAT APPEARS IN A WELL WITHIN THE HISTORICAL EXTENT OF THE NAPL DUE TO A FLUCTUATING WATER TABLE.***

    - Migrating petroleum NAPL occurs when the vertical and/or horizontal extent of this NAPL is expanding. It is only likely to be present shortly after a release occurs or if the release is ongoing. However, site-specific conditions or changes in site conditions may allow petroleum NAPL to migrate for extended periods of time. All migrating petroleum NAPL is also mobile NAPL.

- **MOBILE NAPL --** ***MEANS NAPL THAT EXCEEDS RESIDUAL SATURATION, AND INCLUDES MIGRATING NAPL, BUT NOT ALL MOBILE NAPL IS MIGRATING NAPL.***

    - The term mobile NAPL can be used when petroleum NAPL is present and is at a high enough saturation to be hydraulically connected in the pore spaces so that it can flow. If a well is placed in a location with mobile petroleum NAPL present, this NAPL will accumulate in the well. Mobile petroleum NAPL has the potential to move or expand its footprint, but it is not spreading vertically or laterally. Mobile petroleum NAPL is potentially hydraulically recoverable, but recovery depends on several factors. Examples of mobile petroleum NAPL include: NAPL first observed to accumulate in a well or boring at a site prior to completion of a conceptual site model (CSM), or petroleum NAPL observed in a well due to a change of water levels.

- **RESIDUAL NAPL SATURATION --** ***MEANS THE RANGE OF NAPL SATURATIONS GREATER THAN ZERO NAPL SATURATION UP TO THE NAPL SATURATION AT WHICH NAPL CAPILLARY PRESSURE EQUALS PORE ENTRY PRESSURE AND INCLUDES THE MAXIMUM NAPL SATURATION, BELOW WHICH NAPL IS DISCONTINUOUS AND IMMOBILE UNDER THE APPLIED GRADIENT.***

    - This defines the saturation below which petroleum NAPL become discontinuous and no longer has the ability to flow (residual NAPL). The petroleum NAPL is essentially trapped in the pores and under normal conditions and gradients, the NAPL will not move. The term residual NAPL is used to describe the state of NAPL below this saturation. This petroleum NAPL cannot be recovered by hydraulic means (e.g. pumping); however, with the use of technologies such as excavation, dual-phase extraction, or air sparge/soil vapor extraction, some fraction of the residual NAPL can be remediated or recovered.

    - This term is used when petroleum NAPL has been released at a site, but other lines of evidence suggest mobile or migrating petroleum NAPL is not present. For example, if a boring log or other evidence (e.g. petroleum staining, high photoionization detector (PID) concentrations, laser-induced fluorescence (LIF), dye tests, etc.) indicates the presence of petroleum NAPL in the soil and/or aquifer material, but a properly developed well installed in the same location does not contain mobile NAPL, the NAPL is residual. If there is a sustained groundwater plume or vapor plume present at a site, but no observed mobile or migrating petroleum NAPL, residual NAPL is present. Residual petroleum NAPL could lead to the appearance of mobile NAPL with changes in site conditions, such as a drop in groundwater elevation.

    - Residual petroleum NAPL can exist above and beneath the water table, and will have to be assessed in both the vadose zone and aquifer for the delineation of the petroleum NAPL body, mass calculations, and the development of the CSM. Residual petroleum NAPL can also be the source of compositional plumes (dissolved phase and/or vapor phase) from the NAPL body.

NOTE: Although ASTM 2531-06 has been incorporated by reference into the amended Part 213, some terms defined within the ASTM standard differ from the terms defined within the amended Part 213 (e.g. mobile NAPL has different meanings in each document – in Part 213 mobile NAPL has the ability to move but in ASTM 2531-06 mobile NAPL is moving). ASTM terms to become familiar with include:

- Free LNAPL – LNAPL that is hydraulically connected in the pore space and has the potential to be mobile in the environment. This is the same as mobile LNAPL as defined in amended Part 213.

- Residual LNAPL – LNAPL that is hydraulically discontinuous and immobile under prevailing conditions. Residual LNAPL cannot move through hydraulic mechanisms (unless prevailing conditions change), but can be a source for chemicals of concern (COC) dissolved in groundwater or in the vapor phase in soil gas.

Appendix C.

Stakeholder List

Below is the list of individuals outside of the Michigan Department of Environmental Quality (MDEQ) who received the Petroleum Non-Aqueous Phase Liquids (NAPL) Management Policy and Procedure. The list also shows external affiliations and if comments were provided.

Stakeholder Name	Affiliation	Provided Comments (Yes/No)
Grant Trigger	Racer Trust	No
Mark Adamski	BP America	Yes
Pete Bosanic / Stephen Zayko	PM Environmental	Yes
Abed Houssari	DTE Energy	No
Cheryl Kehres-Dietrich	Soil and Materials Engineers, Inc.	Yes
John Robbins	Shell Oil	Yes
Sanjay Garg	Shell Global Solutions	Yes
Robert Steede	Enbridge Energy	No
Keith Aragona	Haley Aldrich	No
Curt Roebuck	DLZ Michigan	Yes
Steve Crider	NTH Consultants	No
Brad Koons	ARCADIS	Yes
John Rabideau	AMEC E&I, Inc.	Yes
Erik Johnson	Blarney Castle Oil	No
Mike Wolfe	AECOM Environment	Yes
Joe Berlin	BLDI Inc.	No
Dana Bradt	ATC Associates	Yes
Greg Kernosek	Envirosolutions, Inc.	Yes
Tiffany Yusko-Kotimko	Barr Engineering	Yes
Gary Dyke	CH2MHill	No
Donal Brady	Inland Seas Engineering	Yes
Andrew Kirkman	BP America	Yes

Appendix D.

Basic Petroleum Non-Aqueous Phase Liquids Concepts

The migration of petroleum non-aqueous phase liquids (NAPL) requires that the NAPL displace air and water from the soil pores. It takes less force for NAPL to displace air than water; therefore, NAPL preferentially enters air-filled pores. It takes less pressure for NAPL to enter a larger pore; however, in an air-NAPL system (no water), the NAPL will also be in smaller pore spaces because it is the wetting fluid in that system. Geologic heterogeneity, pore geometry, and the presence and amount of water in the pores all strongly affect NAPL migration. NAPL can migrate below the surface of the groundwater; the depth of submerged NAPL will be determined by the degree of heterogeneity and the NAPL head. NAPL can also be present in perched and hydraulically-confined stratigraphic units in the presence of soil/lithology heterogeneity.

After a release, NAPL infiltrates into the pores and is driven downward by gravitational forces through the unsaturated (vadose) zone. As NAPL migrates through the vadose zone, some will remain immobile and trapped in the pores. This residual NAPL in the vadose zone is part of the NAPL body and can act as a source for compositional plumes. If a sufficient volume of NAPL is released to overcome the holding capacity of the vadose zone, the NAPL will reach the water table and, despite it generally having a lower density than water, can be driven into the saturated zone by the vertical NAPL head. For the NAPL to migrate in the saturated zone, it must first displace the water from the pore spaces. NAPL will continue to migrate downward into pores below the water table until vertical equilibrium is reached; this occurs when the NAPL head (downward force) is less than or equal to the sum of the buoyancy force (with LNAPL only) and the entry pressure of the aquifer pores (upward forces). Vertical equilibrium usually occurs before horizontal equilibrium, and the NAPL will continue to spread laterally until horizontal equilibrium is reached. The vertical and horizontal spread of NAPL is limited by buoyancy, capillary forces, NAPL conductivity, and the declining hydraulic force of the NAPL gradient. The NAPL will persist as a separate phase in the pores within both the vadose zone and saturated zone after the NAPL body is spatially stable. All of the NAPL in all of the states (residual, mobile, and migrating) within the saturated zone and the vadose zone make up the entire NAPL body.

NAPL body behavior can be characterized partly by the NAPL saturation, which is the percentage of total pore volume occupied by the NAPL. The remaining pore volume is occupied by air and water (soil moisture) in the vadose zone, and by water in the saturated zone. At vertical equilibrium in the saturated zone, the relative amount of NAPL in the pores varies with depth, and higher NAPL saturations are usually observed near the top of the saturated zone. Over time and as the groundwater elevation fluctuates, some of the NAPL may be vertically and locally redistributed. Some of the NAPL will eventually become hydraulically disconnected, leaving independent globules of NAPL in some pores. As the NAPL migrates and the degree of saturation of NAPL decreases, the NAPL will approach residual saturation. NAPL saturation at or below residual saturation is neither mobile nor hydraulically recoverable. NAPL saturation above residual saturation is mobile, potentially migrating, and potentially hydraulically recoverable. Even though residual NAPL is not mobile, it can still act as a significant source of contaminant mass for vapor and groundwater plumes. Conversely, in some instances, it is possible that the residual NAPL may not be in contact with groundwater, may not be leaching to groundwater, and may not be a vapor risk and can be left in place using institutional controls, if necessary.

The presence of mobile NAPL in a given well does not necessarily mean that the NAPL body is migrating; the NAPL just has the potential to migrate. In order for migration to occur at the edges of the

NAPL body (expansion), the NAPL head (e.g. potential energy or gradient) must be high enough to overcome the entry pressure of adjacent soil pores. As the NAPL body spreads, the degree of NAPL saturation decreases, which reduces the NAPL conductivity. Once the counteracting mechanisms (decreasing conductivity, decreasing gradient, and entry pressure combined with loss mechanisms of biodegradation, dissolution, and volatilization) are greater than the NAPL head, the NAPL body will eventually become spatially stable under prevailing conditions, even though mobile NAPL may remain in the core of the NAPL body.

The detection of visible or measurable NAPL in a well (analogous to a large soil pore) indicates that some of the NAPL in the immediate vicinity of the well exceeds residual saturation and is mobile. The lack of visible or measurable NAPL in a well does not necessarily mean that there is no NAPL in the vicinity of the well; there may be residual NAPL. Moreover, mobile NAPL may be trapped within the saturated zone due to the stronger force needed to displace water from the pores. That is why NAPL may appear or accumulate in greater volumes in a well after the elevation of the groundwater decreases. Thus, water table fluctuations must be accounted for when evaluating saturations, recovery, and the potential for migration of NAPL. Water table fluctuations also affect NAPL recharge rates and recovery trends.

NAPL will generally contain more mass of the constituents of concern (COC) than what is dissolved in groundwater, volatilized to soil gas, and adsorbed to soil particles; however, the mass contained in the NAPL is finite. Over time, as compounds dissolve, volatilize, biodegrade, and/or adsorb to soil, depletion of COC in the NAPL occurs, which is referred to as natural source zone depletion (NSZD). Determining the rate of NSZD may be useful in making risk-based, recovery, and remedial decisions.

The transmissivity of the NAPL, defined as the volume of NAPL traveling through a unit width of aquifer per time per unit drawdown, can be utilized as a metric for recoverability and aid in remedial decisions. Transmissivity can also be used as part of the conceptual site model (CSM) for delineating and depicting recovery trends; however, transmissivity does not necessarily provide information regarding the risk posed by the NAPL. The NAPL transmissivity is a function of both fluid (e.g. density, viscosity) and media (e.g. permeability, pore saturation) properties. Currently, the collection, assessment, and evaluation of NAPL transmissivity data is relatively new and may be subject to change as more data are collected. There are generally four means of data collection and analysis of NAPL transmissivity: 1) baildown/slug testing; 2) manual skimming; 3) recovery system data; and 4) tracer testing. For a more detailed discussion of the methods and analyses, see ASTM E2856 – 11, *Standard Guide for the Estimation of LNAPL Transmissivity*.

Appendix E.

Assessing Vapor Intrusion Risk at Sites with Petroleum Non-Aqueous Phase Liquids

The presence of petroleum non-aqueous phase liquids (NAPL) in soils can lead to difficulties evaluating the risk associated with the soil volatilization to indoor air pathway, commonly known as vapor intrusion (VI). This is partly attributed to the Michigan Department of Environmental Quality's (MDEQ) use of the Johnson and Ettinger VI model (J&E model) for assessing the risk of this exposure pathway, as well as the evaluation of individual contaminants rather than the multiple contaminants that can occur in NAPL. The United States Environmental Protection Agency (EPA) has identified a number of conditions under which the J&E model may not accurately predict VI risk, which includes the presence of NAPL. There are alternate versions of the J&E model as well as other models, such as the American Petroleum Institute's (API) BioVapor, that have been developed to help assess VI risk associated with NAPL. These alternate models can be utilized with multiple contaminants and also assume some biodegradation of petroleum vapors in the vadose zone; however, the source inputs for the models are groundwater or soil gas contaminant concentrations. As stated in the BioVapor model literature, with residual NAPL in the soil, the model(s) should not be used as a primary line of evidence for risk assessment and may require collection of soil gas data.

The MDEQ developed soil volatilization to indoor air inhalation criteria (SVIIC), assumed to be protective of indoor air. The SVIIC numbers will continue to be utilized to assess VI risk; however, with the inherent uncertainties with any model or calculation or soil gas data is a useful metric to make a direct assessment of the vapor risk. Absent soil gas data, soil analytical data can be compared to the SVIIC values for individual hazardous substances if the soil can be considered to contain a relatively minor amount of NAPL. The MDEQ will consider the SVIIC applicable if NAPL is not present or the concentration of TPH GRO is less than 350 mg/kg for gasoline or TPH DRO is less than 500 mg/kg for diesel. If the other assumptions in the algorithm are appropriate for the site, the soil contains no or relatively minor amount of NAPL and the soil analytical data is less than SVIIC, then no further risk assessment is required, even if residual NAPL is in the area proximal to the location of evaluation. If the soil concentrations exceed the SVIIC (when applicable), the soil is above 350 ppm GRO/500 ppm DRO, and/or mobile or migrating NAPL is present, then additional assessment (e.g. soil gas sampling) or presumptive remedies (e.g. soil vapor extraction or institutional controls) will need to be utilized to evaluate and/or address the pathway.

The collection of representative data is always the most appropriate way to evaluate sites. For various reasons, TPH may not always be collected. If soil TPH GRO data has not been collected, then it can be estimated using the soil benzene, toluene, ethylbenzene, and total xylene (BTEX) data. For a gasoline release, multiply the sum of the BTEX concentrations by 40 to estimate the GRO concentration. For a diesel release, estimating the DRO concentration is complex, and site-specific evaluations could be completed.

Soil TPH GRO estimate = Soil BTEX*40

The following is intended to provide additional information and assistance on assessing VI risk and implementing corrective actions when addressing NAPL releases. One of the key assumptions is that the investigation results in an understanding of where the NAPL is located and where each state (residual, mobile, and migrating) of NAPL occurs. In addition, an adequate conceptual site model (CSM) will depict the location, nature, and extent of the NAPL body and compositional plumes in both plan and cross-sectional views, and properly identify potential receptors. The following options can be

utilized (alone or in combination) for evaluating and addressing the VI risk at NAPL sites using the CSM:

1. If the CSM demonstrates that there is no NAPL or only residual NAPL below the 350 ppm GRO or 500 ppm DRO, and the concentrations of the individual petroleum contaminants of concern (COC) in the soil are less than SVIIC then there will be no further risk assessment of the VI pathway required. Other assumptions in the SVIIC calculation will still need apply to the site. If GRO concentrations are unknown, the values can be estimated as outlined above. However, representative data provides the best information for assessing risks.

2. When NAPL is present, establish the chemical composition of the NAPL and utilize a scientifically defensible VI model that can estimate the rate of VI into buildings and identify the associated health risks. The model utilized will need to account for NAPL. Examples of appropriate NAPL models (in Excel® format), their assumptions and use restrictions, and their associated user's guides can be found at:

   http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm
   OR
   http://www.api.org/environment-health-and-safety/clean-water/ground-water/vapor-intrusion/biovapor-form

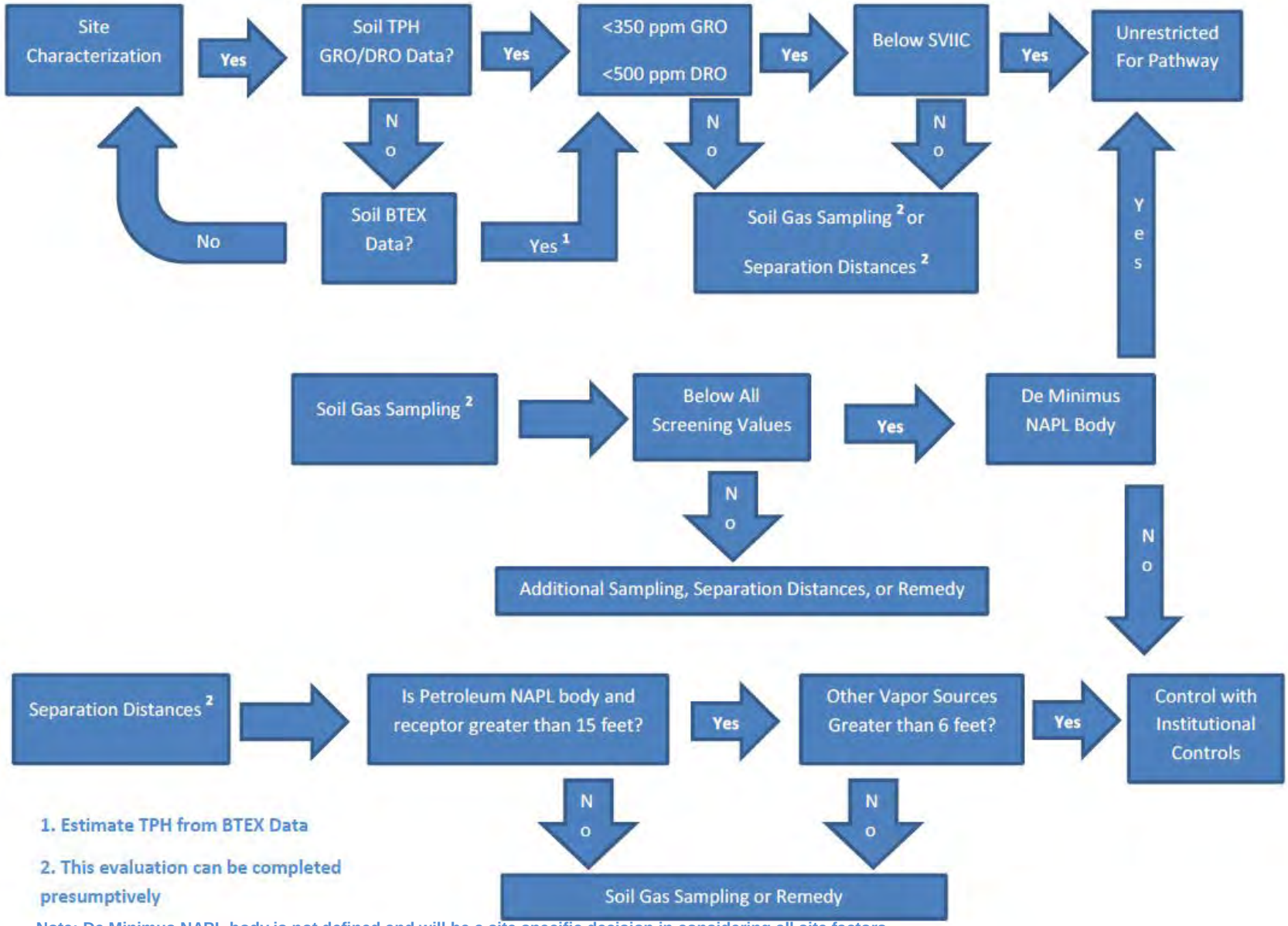
3. When mobile and/or migrating NAPL is present; **or** the SVIIC (when applicable) is exceeded; **or** the GRO/DRO (350/500 ppm) concentration exceeds the screening value; **or** a structure is less than five meters (15 feet) from a NAPL body (that exceeds screening values); **or** a structure is less than two meters (6 feet) from other vapor sources (that exceeds sceening values), then soil gas or sub-slab samples may be collected and analyzed. The soil gas samples should be collected and analyzed in accordance with the sampling strategies identified in the MDEQ's *Guidance Document for the Vapor Intrusion Pathway* or in other scientifically defensible methods. Any detected values can be compared to the screening values published in that document to evaluate if the NAPL poses a risk.

4. If the CSM demonstrates that the NAPL body meets the separation distance of five meters (15 feet) and all other sources of vapor (e.g. impacted soil and dissolved groundwater) are at least two meters (6 feet) from any current, proposed, or planned structure, then the exposure risk is not present and no further risk assessment of the VI pathway is warranted.

NOTE: An institutional control would **NOT** be necessary if the evaluation was based on generic residential assumptions and comparison of soil analytical data to SVIIC (if applicable) or comparison of soil gas concentrations to screening levels to assess risk (if the soil gas samples were collected in or immediately adjacent to the NAPL body – "worst case"). Any time an evaluation other than one based on generic residential assumptions or "worst case" soil gas is implemented (e.g. dependence on separation distance), an institutional control or other remedial action will be necessary to prevent future exposures that could result from land use changes.

Further details on the investigation and risk assessment of soil vapors can be found in the MDEQ *Guidance Document for the Vapor Intrusion Pathway*.

Evaluation of the Vapor Intrusion Pathway with Residual Petroleum NAPL



1. Estimate TPH from BTEX Data

2. This evaluation can be completed presumptively

Note: De Minimus NAPL body is not defined and will be a site specific decision in considering all site factors

Appendix F.

Assessing Direct Contact Risk at Sites with Petroleum Non-Aqueous Phase Liquids

The presence of petroleum non-aqueous phase liquids (NAPL) complicates the evaluation of the soil direct contact (SDC) pathway. Soils containing NAPL can pose a direct contact risk to humans and risks to environmental receptors. The presence of petroleum-saturated soils was not accounted for in the development of the SDC risk-based screening levels (RBSLs)/cleanup criteria (CC) for individual hazardous substances, and may be inconsistent with the underlying assumptions of these criteria. Furthermore, while the Michigan Department of Environmental Quality (MDEQ) has established SDC RBSLs/CC for some of the individual hazardous substances that may be present in common petroleum mixtures, the variability of chemical compositions of petroleum mixtures and the site conditions under which they may exist prevents the development of generic petroleum-mixture RBSLs/CC for state-wide application. To minimize the uncertainties associated with applying the SDC RBSLs/CC when NAPL is present, the MDEQ considers the generic SDC RBSLs/CC appropriate for the evaluation of risk for the SDC exposure pathway when there is less than or equal to 0.5% of the pore space in the soil filled with residual NAPL and there is no evidence of mobile NAPL. At 0.5% saturation of NAPL, it can be reliably assumed that the NAPL is residual and there is not enough mass of NAPL in the soil to physically change the assumed soil properties in the algorithms.

If there is no evidence of mobile NAPL, initial comparisons of the soil concentrations may be made to the lower of the following: generic SDC RBSLs/CC or the individual single compound saturation limit (C_{sat} or soil in equilibrium with water at the solubility limit of an individual compound). When approximating the average compositions of petroleum, several of the individual C_{sat} concentrations may represent approximately 0.5% petroleum saturation in the soil pore space. If the lower of the generic SDC RBSLs/CC or C_{sat} is not exceeded, the MDEQ assumes that less than or equal to 0.5% of the pore spaces in the soil is filled with residual NAPL and no further activities would be required for this pathway.

If the lower of generic SDC RBSLs/CC or C_{sat} is exceeded, or there is evidence of mobile NAPL, a site-specific evaluation can be conducted to assess the SDC risk. The site-specific evaluation could include the determination of the degree of NAPL saturation and NAPL composition. The degree of NAPL saturation can be determined in the laboratory or estimated using total petroleum hydrocarbon (TPH) analysis and the following equation:

$$S_n = (\rho_b * TPH) / (\rho_n * n * 10^6)$$

Where:

S_n – degree of saturation (unitless)
ρ_b – dry bulk density of soil (g/cm^3) – assumed to be 1.6
TPH – TPH analytical value (mg/kg)
n – porosity – assumed to be 0.4 (unitless)
ρ_n – NAPL density (g/cm^3) – assumed to be 0.77 for gasoline and 0.85 for diesel fuel

Using the above assumptions, a TPH-gasoline range organics (GRO) concentration of 900 mg/kg and a TPH-diesel range organics (DRO) concentration of 1,050 mg/kg are approximately equal to 0.5% saturation of NAPL in the pore space of the soil. If the TPH concentration is less than or equal to these GRO and/or DRO concentrations or S_n is less than or equal to 0.5% NAPL saturation using site-

specific values, then the individual hazardous substance concentrations can be compared to the RBSLs/CC for the risk assessment of the SDC pathway.

If the NAPL saturation exceeds 0.5%, then it is assumed that there is a SDC risk associated with the soil, and corrective actions and/or exposure controls will be necessary. Site-specific risk evaluations may also be conducted to determine risks.

Example of an acceptable direct contact pathway risk evaluation:

1. The concentration of xylenes in a soil sample is 400,000 micrograms per kilogram (µg/kg). Comparison to generic SDC RBSLs/CC indicates via footnote that it is necessary to determine if NAPL is present to use this value for comparison. The initial screening comparison then becomes comparison to C_{sat}.
2. This concentration exceeds the individual C_{sat} screening level of 150,000 µg/kg. Further evaluation is required to determine if NAPL is present and if additional controls or protections from the NAPL are required.
3. The TPH-GRO concentration in this same soil sample is 750,000 µg/kg. Using the above assumptions and saturation equation, the GRO value suggests that NAPL saturation is less than 0.5%. This implies that residual NAPL is present at a low enough saturation the SDC RBSL/CC for xylenes of 410,000,000 µg/kg can be used for comparison.
4. Since the soil concentration of xylenes is less than the SDC RBSL/CC, there is no direct contact risk of total xylenes.

Appendix C
RACER LNAPL Remedial/Management Decision-Making Process

LNAPL CONCEPTUAL SITE MODEL (LCSM) DEVELOPMENT – MENU OF OPTIONS

	Potential Parameters/Considerations	Potential Evaluation Methods	Discussion
LNAPL Body Delineation/ Characterization	1. LNAPL body geometry: horizontal/ vertical extents, position relative to water table 2. Relative intensity of impacts (hot spots)	1. Installation of wells/borings, laser-induced flourescence (LIF), resistivity 2. Soil sampling (TPH, LNAPL saturations), groundwater sampling, LIF, resistivity	
Geology/ Hydrogeology	1. General Stratigraphy 2. Impacted Soil Types 3. Hydraulic Gradients 4. LNAPL Gradient 5. Hydraulic Conductivity	1,2. Field screening of soil borings, laboratory grain size analysis 3,4. Well gauging 5. Slug tests, pumping tests, laboratory testing	
LNAPL Physical/ Chemical Properties	1. LNAPL viscosity 2. LNAPL specific gravity 3. LNAPL type/age 4. LNAPL chemical composition	1,2. Laboratory physical property testing 3. Laboratory forensic testing/fingerprinting 4. Laboratory chemical analytical testing	
Dissolved and Vapor Phase Impacts	1. Groundwater concentrations of LNAPL constituents 2. Soil gas concentrations of LNAPL constituents 3. Soil gas explosivity	1. Groundwater sampling/laboratory testing 2. Soil gas sampling/laboratory testing 3. Field screening of well headspace and/or soil gas samples using handheld lower explosive limit (LEL) meter	1. Focus on wells without LNAPL. The potential benefit of sampling groundwater under LNAPL should be weighed against the risk of obtaining LNAPL-contaminated samples (LNAPL presence may not be readily apparent in a groundwater sample). 2. The need for soil gas sampling and the potential parameter list can be screened based on the volatility of the LNAPL and/or specific constituents (e.g., test for constituents with Henry's law constant > $1e^{-5}$ atm-m^3/mol and vapor pressure > 0.05 Torr)
LNAPL Mobility	1. Age of LNAPL body 2. Soil TPH concentrations 3. LNAPL saturations and residual saturations 4. LNAPL transmissivity 5. Recovery system performance 6. Dissolved phase trends *Typically involves a weight of evidence approach where multiple lines of evidence are considered (due to the complexity of multi-phase flow in the subsurface and the technical limitations of the potential evaluation methods).	2. Comparison against appropriate C_{res} value or conversion of TPH concentrations to saturations and comparison to typical residual saturation values (see ASTM E2531-06) 3. Soil core sampling and laboratory petrophysical testing (e.g., pore fluid saturation testing, water drive testing) 4. Field LNAPL baildown testing, pumping tests, field dye tracer testing (see ASTM E2856-11) 5. LNAPL recovery system cumulative recovery/ recovery rate plots, decline curve analysis 6. Groundwater concentration trends of LNAPL parameters	1. Older LNAPL is less likely to be mobile 2,3. LNAPL saturations exceeding residual levels provide a line of evidence of LNAPL mobility 4. LNAPL transmissivity > 0.8 ft^2/day provides a line of evidence of LNAPL mobility (see ASTM E2856-11) 5. Poor recovery system performance may provide strong evidence that remaining LNAPL is at residual levels/immobile (if the system has been effectively implemented and operated) 6. Dissolved phase trends provide an indication of the state of the LNAPL body (e.g., stable dissolved phase trends = stable LNAPL)
LNAPL Migration	1. LNAPL body expansion and migration *LNAPL migration differs from the LNAPL mobility consideration above in that is only considers the potential for LNAPL mobility around the perimeter of an LNAPL body (i.e., its ability to migrate or expand into areas that are not already impacted).	1. One or more LNAPL mobility lines of evidence indicates potential mobility along LNAPL body perimeter 2. LNAPL observations in sentry wells installed in clean soil 3. Estimate critical LNAPL head (pore entry displacement pressure) at LNAPL periphery	3. Critical LNAPL head (pore entry displacement pressure) exceeded at LNAPL periphery represents a potential for LNAPL body expansion/ migration
LNAPL Recoverability	1. Potential LNAPL recovery rates 2. Fraction of LNAPL body that may be recoverable *Most of the potential evaluation methods listed above for LNAPL mobility will also provide evidence relating to the potential recoverability of the LNAPL.	1. LNAPL recovery pilot results, LNAPL transmissivity estimation, full-scale LNAPL recovery system performance 2. Comparison of LNAPL saturations and residual saturations	1. LNAPL recovery may be considered technically practicable where LNAPL recovery rates exceed a minimum level and/or where LNAPL transmissivity > 0.8 ft^2/day 2. Regardless of the technical practicability of LNAPL recovery, any recovery activity will only have a significant effect on an LNAPL body where LNAPL saturations significantly exceed residual levels (i.e., significant recoverable fraction)
Potential Remedial Drivers	1. Risk (compositional concerns) 2. LNAPL mobility/migration (saturation concerns) 3. Non-risk (non-technical) factors such as aesthetic (e.g., visual, olfactory), regulatory or other considerations (e.g., property transaction condition)	1. Will vary from comparison of existing site data to generic criteria, to quantitative human health and ecological risk assessment (depending on complexity of site and magnitude of potential risks) 2. See LNAPL mobility and LNAPL migration lines of evidence and approaches above 3. Review applicable LNAPL regulations 3. Establish site goals	

NOTES:

Draft document originally created for the RACER Trust through the collaborative efforts of RACER, Conestoga-Rovers & Associates, and Arcadis.

The “menu” provided above presents potential elements of an LCSM, potential evaluation methods and potential metrics (where applicable). The need to quantify specific items above should be based on a preliminary consideration of site-specific goals and site complexity. *It will not be necessary to quantify all items above at all sites.*

Table C-1 of ITRC’s Technical Regulatory Document entitled Evaluating LNAPL Remedial Technologies for Achieving Project Goals provides more detail on LCSM components and presents a three level tiered approach to LCSM development based on increasing levels of site complexity

Table X4.1 of ASTM Standard E2531-6 provides detailed information on LNAPL site data collection methods and their applicability

LNAPL Compositional Concerns (potential exposure/risk issues):
- Explosive hazards (vapor accumulation in confined spaces/ utilities, open excavations)
- Dissolved-phase concentrations (migration toward surface water bodies or groundwater supply wells)
- Vapor-phase concentrations (vapor intrusion/long-term exposure risk)
- Direct contact or ingestion

EVALUATE LNAPL CONCERNS FROM LCSM

LNAPL Concerns = Remedial Drivers

Compositional Concerns
Risk-based drivers such as unacceptable levels of dissolved or vapor-phase impacts

Saturation Concerns
Drivers relating to the mitigation of LNAPL migration and/or reduction of LNAPL mobility

LNAPL Saturation Concerns (mobility and migration issues)
- Potential for LNAPL to spread and create new or increased risk (migration toward surface water, property boundary, underground utilities)
- Aesthetic/Nuisance issues

1

Risk: Are unacceptable dissolved phase, vapor phase or direct contact exposures associated with the LNAPL under any use scenarios?

Yes → Do feasible options exist to mitigate unacceptable risk through compositional change? (9)

No → No Further Action

Yes → Can institutional/engineering controls provide effective risk mitigation? (10)

No → Implement treatment/removal action (6)

Yes → **Cost-Benefit** Is there potential benefit to partial treatment/removal that outweighs costs? (5)

Yes → Implement treatment/removal action (6)

No → Are controls required? (7)

Migration: Is LNAPL migrating or potentially migrating (i.e., mobile along perimeter)? (2)

No → **Mobility**: Is LNAPL potentially mobile within stable LNAPL perimeter? (3)

No → Are controls required? (7)

Yes → Do feasible options exist to mitigate migration through LNAPL recovery or mass control?

No → Are controls required? (7)

Yes → Implement LNAPL Recovery Remedy (6)

Yes → **Cost-Benefit** Will potential benefit of LNAPL recovery outweigh costs? (5)

No → **Recoverability**: Is LNAPL readily recoverable? (4)

No → Are controls required? (7)

Yes → **Cost-Benefit** Will potential benefit of LNAPL recovery outweigh costs? (5)

No → Are controls required? (7)

Are controls required? (7)

Yes → Implement Controls → Implement Long-Term Stewardship/ Monitoring Plan (**as required**) (8) → No Further Action

No → Implement Long-Term Stewardship/ Monitoring Plan (**as required**) (8) → No Further Action

(#) NOTES

LNAPL Remedial Decision Tree

WORKING DRAFT – 2/6/13

1 The LCSM may identify both risk and mobility/migration issues at a given site. Consequently, compositional change techniques (to mitigate risk) and saturation reduction techniques (to mitigate mobility/migration concerns) may represent concurrent considerations that may require independent remedies.

2 Migration is only likely to be occurring where releases are active or shortly after cessation where a LNAPL gradient/head is present. Due to the complexity of multi-phase flow in porous media and the limitations of available assessment methods, LNAPL migration potential should be evaluated using multiple lines of evidence (see LCSM Menu – Page 1)

3 LNAPL Mobility – Is LNAPL present at saturations exceeding residual values? Example lines of evidence listed in LCSM Menu – Page 1.

4 The presence of readily recoverable LNAPL as defined by transmissivity > 0.8 ft^2/day does not necessarily indicate that a significant fraction of an LNAPL body would be beneficially affected through LNAPL recovery. An understanding of the fraction of the LNAPL body that may be recoverable is necessary in order to establish a realistic expectation of the actual benefit of any LNAPL recovery activity and a determination of whether the LNAPL body is “readily recoverable.”

5 The potential benefit of LNAPL remediation should be weighed against the potential costs in terms of the associated expenditure of financial and natural resources, the risks involved in implementation, and the contamination potentially resulting from the remedial action (i.e., sustainability considerations). For situations where LNAPL bodies are stable with no associated risk, the net environmental benefit of active engineered LNAPL remedial systems should be scrutinized. In these cases, it is highly unlikely that LNAPL recovery will effect enough of the LNAPL body to result in a significant level of risk reduction over natural source zone depletion (NSZD) alone.

6 Establish LNAPL recovery objectives and science-based achievable/measureable LNAPL recovery end-points prior to implementing LNAPL remediation (e.g., reduction of LNAPL transmissivity to less than 0.8 ft^2/day to meet a saturation objective).

7 Considering the significant technical limitations of LNAPL mass recovery or compositional change, engineering and/or institutional controls should be considered in conjunction with or in lieu of remedial action.

8 Perform any necessary monitoring to confirm LNAPL remedial goals are/were met.

9 LNAPL compositional change remediation is implemented to reduce the concentration or mole fraction of specific compounds in LNAPL that contribute to dissolved and or vapor phase concerns (i.e., air sparging and soil vapor extraction to reduce the mole fraction of benzene in LNAPL). Phase change technologies can be used to target immobile LNAPL, unlike conventional LNAPL mass recovery technologies such as LNAPL skimming. Examples of compositional change techniques may include air sparging, enhanced biodegradation, in situ thermal treatment, and in-situ chemical oxidation. Some phase change remedial technologies will accomplish both LNAPL mass recovery (saturation objective) and compositional change objectives simultaneously.

10 Examples of potentially effective removal actions include excavation with off-site disposal, excavation with ex-situ thermal treatment and in-situ thermal treatment (e.g., electrical resistance heating with high vacuum extraction).

LNAPL Remedial Decision Tree Notes

WORKING DRAFT – 2/6/13

Attachment D
Stratigraphic Boring/Monitoring Well Construction Logs

EDI ENGINEERING & SCIENCE
ENGINEERS / GEOLOGISTS / BIOLOGISTS / CHEMISTS
611 CASCADE W. PKWY. S.E., GRAND RAPIDS, MI 49506, (616) 942-0970

Page: ____ of ____ 85-3
Well/Boring No.:
Client: General Motors - CPC
Project No.: 20456
Permit No.:
Date Started 11/26 Finished 11/26/85

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
KENT	CITY OF WYOMING	NE ¼ NW ¼ NE ¼	24	6N	12W

Contractor: Stearns Drilling
Address: Dutton, MI

Equipment: CME 45

Supervisor: D. Johnson
J. Venn

Drilling Method(s) — **Depth**
Hollow Stem — 0-30.0'
Auger & Split Spoons

Grouting/Seal

Depth	To	Material
-0.3	30.3'	Natural Soils and Benseal; Cement at Surface

Development: Bailer lowered on rope; three casing volumes removed.

Water Level: 21.19 Ft. Below: TOC
Measured On: 12/6/85

Screen:
Manufacturer: Johnson
Material: Stainless Steel
Model: 960
Slot/Gauze: 10 Dia.: 2"
Length: 10'
Depth Set: 20.3 To: 30.3'

Casing

Dia.	Type	Depth Set
2"	Galv.	-0.3 To 20.3'
		To

Elevation
Casing: 681.4'
Ground:
Ref. Pt.:

Location Sketch : SEE LOCATION MAP

Remarks (include here, other data available)

Well has flush-mounted sealed metal cap with enclosed locking cap. Top of casing is cemented into concrete floor

(FEET) Thickness	(FEET) Depth To Base	Description	Remarks: SAMPLE DEPTH
0.3	0.3	WOOD BLOCK FLOOR	3.5 5.0
0.8	1.1	CONCRETE FLOOR	8.5 10.0
2.9	4.0	SAND - fine to medium grained, brown	13.5 15.0
9.0	13.0	SAND - fine grained, light brown	18.5 20.0
2.0	15.0	GRAVEL - medium to coarse grained	23.5 25.0
5.0	20.0	SAND - gravelly, coarse grained, with oily appearance on surface of grains; slight odor	
10.0	30.0	SAND - silty, very fine grained, traces of black particles contained in sand	

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611 CASCADE W. PKWY, S.E., GRAND RAPIDS, MI 49506; (616) 942-0970

Page: ____ of ____ 85-4
Well/Boring No.: ____
Client: General Motors - CPC
Project No.: 20456
Permit No.: ____
Date Started 11/26 Finished 11/26/85

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
KENT	CITY OF WYOMING	NE ¼ NW ¼ NE ¼	24	6N	12W

Contractor: Stearns Drilling
Address: Dutton, MI

Equipment: CME 45

Supervisor: D. Johnson
J. Venn

Drilling Method(s) **Depth**
Hollow Stem 0-30'
Auger & Split Spoons

Grouting/Seal

Depth	To	Material
-0.3	30.7'	Natural Soils and Benseal; Cement at Surface

Development: Bailer lowered on rope; three casing volumes removed.

Water Level: 21.19 Ft. Below: TOC
Measured On: 12/6/85

Screen:
Manufacturer: Johnson
Material: Stainless Steel
Model: 960
Slot/Gauze: 10 Dia.: 2"
Length: 10'
Depth Set: 20.7' To: 30.7'

Casing

Dia.	Type	Depth Set
2"	Galv.	-0.3 To 20.7'
		To

Elevation
Casing: 681.3'
Ground:
Ref. Pt.:

Location Sketch : SEE LOCATION MAP

Remarks (include here, other data available)
Well has flush-mounted sealed metal cap with enclosed locking cap. Top of casing is cemented into concrete floor.

(FEET) Thickness	(FEET) Depth To Base	Description	Remarks: SAMPLE DEPTH
0.3	0.3	WOOD BLOCK FLOOR	3.5-5.0
0.8	1.1	CONCRETE FLOOR	8.5-10.0
4.9	6.0	SAND - fine to medium grained, brown	13.5-15.0
3.5	9.5	SAND - fine grained, light brown	18.5-20.0
4.5	14.0	SAND - fine to medium grained, brown	23.5-25.0
4.0	18.0	SAND - gravelly, medium to coarse grained, brown, slight odor	28.5-30.0
6.0	24.0	SAND - very fine grained, light gray, odor	
2.0	26.0	SAND - gravelly, medium to coarse grained, brown	
4.0	30.0	SAND - fine to medium, brown, becoming gravelly at base	

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511 CASCADE W. PKWY. S.E., GRAND RAPIDS, MI 49506; (616) 942-0970

Page: ____ of ____ 85-5A
Well/Boring No.:
Client: General Motors - CPC
Project No.: 20456
Permit No.:
Date Started 11/26 Finished 11/26/85

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
KENT	CITY OF WYOMING	NE¼ NW ¼ NE ¼	24	6N	12W

Contractor: Stearns Drilling
Address: Dutton, MI
Equipment: CME 45
Supervisor: D. Johnson, J. Venn

Drilling Method(s) — **Depth**
Hollow Stem — 0-7.7'
Auger & Split Spoons

Grouting/Seal

Depth	To	Material

Development:

Water Level: ____ Ft. Below: ____
Measured On:

Screen:
Manufacturer:
Material:
Model:
Slot/Gauze: ____ Dia.: ____
Length:
Depth Set: ____ To: ____

Casing

Dia.	Type	Depth Set
		To
		To

Elevation
Casing:
Ground:
Ref. Pt.:

Location Sketch : SEE LOCATION MAP

Remarks (include here, other data available)
Auger hit concrete with rebar at 7.5 feet below surface. After penetrating 0.2 feet into concrete, we decided to abandon well and move over and drill 85-5B

(FEET) Thickness	(FEET) Depth To Base	Description	Remarks: SAMPLE DEPTH
0.3	0.3	WOOD BLOCK FLOOR	3.5-5.0
1.0	1.3	CONCRETE FLOOR	
6.2	7.5	SAND - gravelly, fine to medium grained, brown	
0.2	7.7	CONCRETE - sub-floor with rebar	

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Page: ____ of ____ 85-5B
Well/Boring No.: ____
Client: General Motors - CPC
Project No.: 20456
Permit No.: ____
Date Started 12/2 Finished 12/2/85

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
KENT	CITY OF WYOMING	NE ¼ NW ¼ NE ¼	24	6N	12W

Contractor: Stearns Drilling
Address: Dutton, MI

Equipment: CME 45

Supervisor: D. Johnson
J. Venn

Drilling Method(s) — **Depth**
Hollow Stem — 0-33'
Auger & Split Spoons

Grouting/Seal

Depth To		Material
-0.3	31.9'	Natural Soils and Benseal;
		Cement at Surface

Development: Bailer lowered on rope; three casing volumes removed.

Water Level: 21.23 Ft. Below: TOC
Measured On: 12/6/85

Screen:
Manufacturer: Johnson
Material: Stainless Steel
Model: 960
Slot/Gauze: 10 Dia.: 2"
Length: 10'
Depth Set: 21.9 To: 31.9'

Casing

Dia.	Type	Depth Set
2"	Galv.	-0.3 To 21.9'
		To

Elevation
Casing: 681.3'
Ground:
Ref. Pt.:

Location Sketch: SEE LOCATION MAP

Remarks (include here, other data available)

Well has flush-mounted sealed metal cap with enclosed locking cap. Top of casing is cemented into concrete floor. This well was drilled after Well 85-5A was plugged and abandoned.

(FEET) Thickness	(FEET) Depth To Base	Description	Remarks: SAMPLE DEPTH
0.3	0.3	WOOD BLOCK FLOOR	3.5 5.0
0.8	1.1	CONCRETE FLOOR	8.5 10.0
11.9	13.0	SAND - fine to medium grained, brown	13.5 15.0
5.0	18.0	SAND - fine to medium grained, dark brown, some	18.5 20.0
		gravel and pebbles	23.5 25.0
1.8	19.8	GRAVEL - with pebbles, brown to white	28.5 30.0
4.7	24.5	SAND - fine grained, tan to brown	
4.7	29.2	SAND - gravelly, coarse grained, brown; grades to	
		gravel at base; no odor	
0.8	30.0	SAND - fine grained, brown to tan, no odor	

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Page: ____ of ____ 85-6
Well/Boring No.: ____
Client: General Motors - CPC
Project No.: 20456
Permit No.: ____
Date Started 11/27 Finished 11/27/85

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
KENT	CITY OF WYOMING	NE ¼ NW ¼ NE ¼	24	6N	12W

Contractor: Stearns Drilling
Address: Dutton, MI

Equipment: CME 45

Supervisor: D. Johnson
J. Venn

Drilling Method(s) **Depth**
Hollow Stem 0-25.5'
Auger & Split Spoons

Grouting/Seal

Depth To		Material
0	24.5'	Natural Soils and Benseal; Cement at Surface

Development: Bailer lowered on rope; three casing volumes removed.

Water Level: 19.98 Ft. Below: TOC
Measured On: 12/6/85

Screen:
Manufacturer: Johnson
Material: Stainless Steel
Model: 960
Slot/Gauze: 10 Dia.: 2"
Length: 5'
Depth Set: 19.5 To: 24.5'

Casing

Dia.	Type	Depth Set	
2"	Galv.	0	To 19.5'
			To

Elevation
Casing: 680.4'
Ground:
Ref. Pt.:

Location Sketch : SEE LOCATION MAP

Remarks (include here, other data available)

Well has flush-mounted sealed metal cap with enclosed locking cap. Top of casing is cemented into concrete sidewalk.

(FEET) Thickness	(FEET) Depth To Base	Description	Remarks: SAMPLE DEPTH
0.3	0.3	CONCRETE SIDEWALK	3.5-5.0
3.7	4.0	SAND - gravelly, fine to medium grained, brown	8.5-10.0
3.0	7.0	SAND - gravelly, medium to coarse grained, brown	13.5-15.0
6.0	13.0	SAND - gravelly, fine to medium grained, light brown	18.5-20.0
5.0	18.0	SAND - gravelly, medium to coarse grained, brown	23.5-25.0
4.0	22.0	SAND - silty, fine grained, brown	
2.0	24.0	SAND - fine to coarse grained, brown	
1.5	25.5	SAND - gravelly, medium to coarse grained, brown	

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Page: ____ of ____ 028
Well/Boring No.: 86-1
Client: GMC-CPC
Project No.: 20571
Permit No.: ____
Date Started 5/2 Finished 5/2/86

Well / Boring Log Sheet

County	Township	Fraction	Section	T	R
Kent	City of Wyoming	¼ NW ¼ NE ¼	18	6N	12W

Contractor: Stearns
Address: ____
Equipment: CME-45B
Supervisor: ELC

Drilling Method(s) / **Depth**
HSA / 30'

Grouting/Seal

Depth	To	Material
0	23.5	natural soils bentonite

Development: ____

Water Level: 23.5 Ft. Below: TOC
Measured On: ____

Screen:
Manufacturer: Johnson
Material: stainless steel
Model: 960
Slot/Gauze: 10-slot Dia.: 2"
Length: 2 x 120 x 133
Depth Set: 18.5' To: 29.0

Casing

Dia.	Type	Depth Set
2"	galv.	0 To 18'
		To

Elevation
Casing: ____
Ground: ____
Ref. Pt.: ____

Location Sketch

See site map

Remarks (include here, other data available)
No floating product reported

Thickness	Depth To Base	Description	Remarks
0.5	0.5	TOPSOIL	
12.5	13.0	SAND - fine, brown	
10.0	23.0	SAND - fine, light brown	
7.0	30.0	SAND - medium to coarse, brown, wet	

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

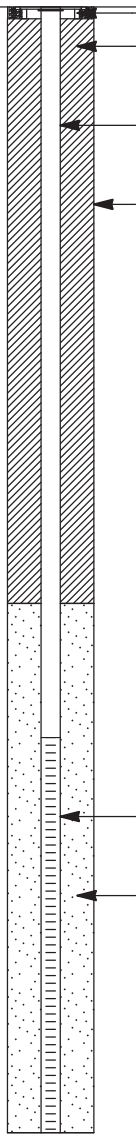
HOLE DESIGNATION: MW44-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

NORTHING: 511944.99
EASTING: 12773866.99

GROUND SURFACE 679.97
TOP OF CASING 679.49

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL, (FILL), with concrete debris, trace silt, loose, fine grained sand, fine and coarse grained subrounded gravel, crushed concrete, damp	679.47
4	SP-SAND (FILL), trace silt, trace fine grained gravel, compact, fine grained, poorly graded, brown, moist	
	- trace concrete debris at 5.0ft BGS	
14	- 2" lens concrete debris at 14.8ft BGS	
18	SP-GRAVELLY SAND (native), compact, medium grained sand, fine grained gravel, poorly graded, gray, moist, petroleum-type odor	661.97
20	- fine grained sand, gray, wet, strong petroleum-type odor at 20.0ft BGS	
24	SP/GP-SAND AND GRAVEL, dense, medium to coarse grained sand, fine grained gravel, up to 3/4", poorly graded, dark gray, wet, faint petroleum-type odor	655.67
28	END OF BOREHOLE @ 28.5ft BGS	651.47

MONITORING WELL



WELL DETAILS
Screened interval:
661.47 to 651.47ft
18.50 to 28.50ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
679.67 to 664.87ft

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1SS		100	31	0.0
2SS		100	30	0.0
3SS		100	8	0.0
4SS		75	29	227
5SS		100	61	2.8

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW44-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			0.30 to 15.10ft BGS Material: BENTONITE GROUT Sand Pack: 664.87 to 651.47ft 15.10 to 28.50ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW45-12
DATE COMPLETED: September 27, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

NORTHING: 512016.02
EASTING: 12773912.44

GROUND SURFACE: 679.23
TOP OF CASING: 678.83

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), trace silt, with concrete debris, loose, fine grained sand, fine and coarse grained gravel, crushed concrete, light brown, dry	
2	- dark brown at 0.5ft BGS	677.23
4	SP-SAND (FILL), trace silt, trace fine grained gravel, loose, fine grained, poorly graded, dark brown, damp	
6	- brown at 4.0ft BGS	
8		
10		
12	SP/GP-SAND AND GRAVEL (native), compact, medium to coarse grained sand, fine grained subrounded gravel, brown, damp to moist	667.73
14		
16		
18		
20		
22	SP-SAND, trace silt, compact, fine to very fine grained, poorly graded, light brown, wet, faint petroleum-type odor	657.23
24	- loose at 25.0ft BGS	
26		
28		
30	END OF BOREHOLE @ 29.1ft BGS	650.13
32		
34		

MONITORING WELL

CONCRETE
BENTONITE GROUT
2" PVC WELL CASING
8-1/4" BOREHOLE
2" PVC WELL SCREEN
SAND PACK

WELL DETAILS
Screened interval:
660.13 to 650.13ft
19.10 to 29.10ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1SS		70	3	0.0
2SS		30	4	0.0
3SS		80	15	0.0
4SS		60	12	0.0
5SS		75	7	0.0
6SS				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW45-12
DATE COMPLETED: September 27, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			678.93 to 663.13ft 0.30 to 16.10ft BGS Material: BENTONITE GROUT Sand Pack: 663.13 to 650.13ft 16.10 to 29.10ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

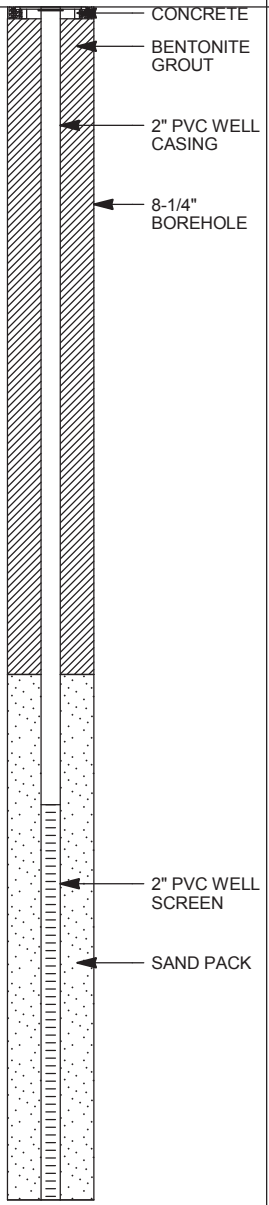
HOLE DESIGNATION: MW46-12
DATE COMPLETED: September 27, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

NORTHING: 512281.62
EASTING: 12773845.06

GROUND SURFACE: 680.60
TOP OF CASING: 680.25

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP-SAND (FILL), with silt, trace roots and vegetation (topsoil and sand mixture), loose, fine grained, poorly graded, dark brown, damp	
4		676.10
4	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, damp	
6	- trace fine grained subrounded gravel at 5.5ft BGS	
8	- 1" lens gravelly sand at 8.5ft BGS	
8		671.60
8	SP-SAND (native), trace silt, loose, fine grained, poorly graded, tan, several brown laminations, damp	
12	- several oxidized laminations and lenses less than 1" thick at 13.0ft BGS	
16	- light beige, slight increase in grain size at 16.5ft BGS	
22	- wet at 23.0ft BGS - fine to medium grained sand at 23.5ft BGS - medium grained sand, few fine grained subrounded gravel at 24.0ft BGS	
30	- 2" sandy gravel at 29.7ft BGS - fine grained sand at 29.9ft BGS	650.40
30	END OF BOREHOLE @ 30.2ft BGS	

MONITORING WELL



WELL DETAILS
Screened interval:
660.40 to 650.40ft
20.20 to 30.20ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1SS		100	4	0.0
2SS		100	4	0.0
3SS		60	5	0.0
4SS		75	9	0.0
5SS		100	10	0.0
6SS		100	13	0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 079579
CLIENT: MCM MANAGEMENT CORPORATION
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW46-12
DATE COMPLETED: September 27, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			Material: PVC Seal: 680.30 to 663.70ft 0.30 to 16.90ft BGS Material: BENTONITE GROUT Sand Pack: 663.70 to 650.40ft 16.90 to 30.20ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

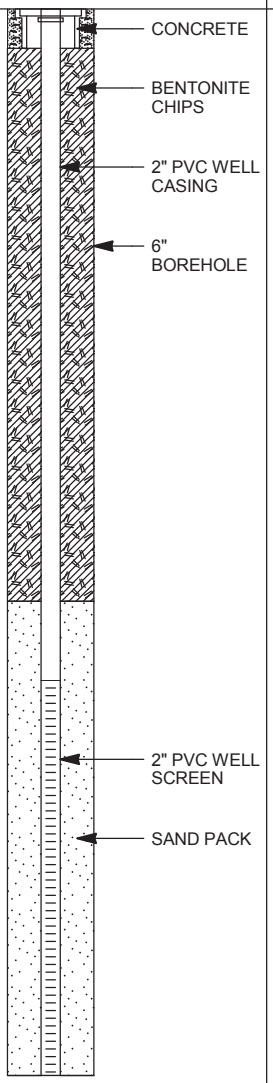
PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW50-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 511867.1
EASTING: 12773895.7

GROUND SURFACE 680.48
TOP OF CASING 680.11

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), with concrete debris, trace silt, loose, fine grained sand, fine grained subangular gravel and crushed concrete, poorly graded, brown, moist	678.68
2	SP-SAND (FILL), trace fine grained gravel, trace silt, loose, fine grained, poorly graded, brown, moist - 2" sand and gravel at 3.3ft BGS - gravelly fine to medium grained sand at 5.0ft BGS	
4		
6		
8	- fine grained sand, trace fine grained gravel, trace brick debris at 7.5ft BGS - gravelly sand, faint odor at 8.5ft BGS	
10	- 5" concrete at 10.5ft BGS - gravelly sand, faint odor at 10.9ft BGS	
12		
14		
16	SP/GP-SAND AND GRAVEL, medium grained sand, fine grained rounded gravel, loose, poorly graded, brown, moist, faint odor - very moist to wet, stronger odor at 17.0ft BGS	665.48
18		
20	- wet at 19.0ft BGS	
22		
24		
26	SP-SAND, trace silt, compact, very fine grained, poorly graded, light brown, wet	655.48
28	END OF BOREHOLE @ 27.0ft BGS	653.48
30		
32		
34		



WELL DETAILS
Screened interval:
663.48 to 653.48ft
17.00 to 27.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
679.48 to 665.48ft
1.00 to 15.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0.0
1RS		100		0.0
2RS		100		0.0
				0.0
				5.4
3RS		100		7.7
				1.8
				105.0
4RS		70		135.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 017360-T05WIN.GPJ CRA_CORP.GDT 1/30/13

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW50-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			665.48 to 653.48ft 15.00 to 27.00ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

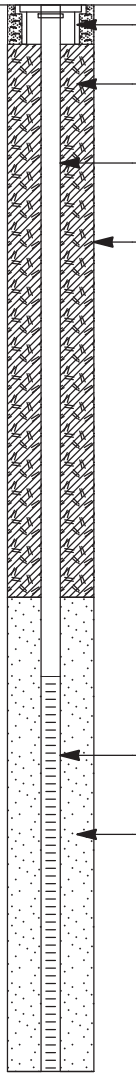
HOLE DESIGNATION: MW51-12
DATE COMPLETED: October 24, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 511737.4
EASTING: 12773904.2

GROUND SURFACE 680.73
TOP OF CASING 680.44

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), trace silt, trace concrete debris, loose, fine grained sand, fine grained gravel and crushed concrete, poorly graded, brown, moist	679.93
2	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, moist	678.93
4	SW/GW-SAND AND GRAVEL (FILL), loose, fine to medium grained sand, fine grained subrounded gravel, brown, moist	678.43
6	SP-SAND (FILL), trace silt, trace fine grained gravel, loose, fine grained, poorly graded, brown, moist	
8	- 5" brown with gray lenses at 4.8ft BGS	
10	- faint odor at 11.0ft BGS	
12		
14		
16		
18	CONCRETE	662.73
20	- metal casting debris at 19.5ft BGS	661.13
22	SP-SAND, with gravel, trace silt, loose, fine grained, poorly graded, brown, wet, faint odor	
24		
26	SP-SAND, few silt, compact, very fine grained, poorly graded, light brown, wet, faint odor	655.73
28	END OF BOREHOLE @ 27.0ft BGS	653.73
30		
32		
34		

MONITORING WELL



WELL DETAILS
Screened interval:
663.73 to 653.73ft
17.00 to 27.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
679.73 to 665.73ft
1.00 to 15.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0.0
1RS		100		0.0
				0.0
2RS		100		0.0
				1.7
				2.0
				2.5
3RS		40		0.0
				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW51-12
DATE COMPLETED: October 24, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			665.73 to 653.73ft 15.00 to 27.00ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

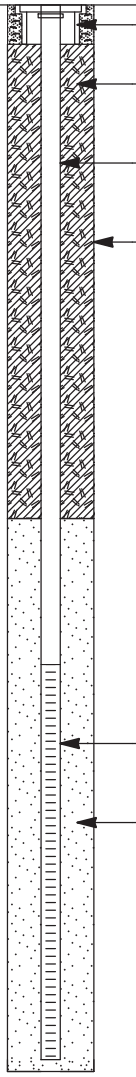
HOLE DESIGNATION: MW52-12
DATE COMPLETED: October 24, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 511497.4
EASTING: 12773933.3

GROUND SURFACE 679.98
TOP OF CASING 679.69

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SW/GW-SAND AND GRAVEL (FILL), trace silt, trace crushed concrete, loose, fine to medium grained sand, fine grained subangular to subrounded gravel, well graded, light brown, moist	678.98
4	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, moist - occasional dark gray lenses at 2.5ft BGS - trace fine grained gravel at 3.0ft BGS - trace concrete debris at 4.2ft BGS	
8		670.98
10	SW/GW-SAND AND GRAVEL (FILL), compact, fine to medium grained sand, fine grained gravel, well graded, dark brown, moist, odor, trace concrete debris	668.98
12	CONCRETE	
16	SP-SAND (native), trace silt, compact, fine grained, poorly graded, gray, odor, moist to very moist	663.98
18	SW/GW-SAND AND GRAVEL, compact, fine to medium grained sand, fine grained subrounded gravel, gray, with brown lenses, very moist to wet, odor - wet at 18.5ft BGS	661.98
26	- brown at 26.0ft BGS	
28	END OF BOREHOLE @ 27.0ft BGS	652.98

MONITORING WELL



WELL DETAILS
Screened interval:
663.28 to 653.28ft
16.70 to 26.70ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
678.98 to 666.98ft
1.00 to 13.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				0.0
1RS		64		0.0
				0.0
				0.0
				122.0
2RS		75		
				0.0
				0.0
3RS		50		0.0
				115
				115
4RS		60		75
				59
				50

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 017360-T05WIN.GPJ CRA_CORP.GDT 1/30/13

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: MW52-12
DATE COMPLETED: October 24, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
36			666.98 to 652.98ft 13.00 to 27.00ft BGS Material: SAND					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

Attachment E
RACER LNAPL Decision Tree Analysis

LNAPL Compositional Concerns (potential exposure/risk issues):
- Explosive hazards (vapor accumulation in confined spaces/ utilities, open excavations)
- Dissolved-phase concentrations (migration toward surface water bodies or groundwater supply wells)
- Vapor-phase concentrations (vapor intrusion/Long-term exposure risk)
- Direct contact or ingestion

EVALUATE LNAPL CONCERNS FROM LCSM

LNAPL Concerns = Remedial Drivers

Compositional Concerns
Risk-based drivers such as unacceptable levels of dissolved or vapor-phase impacts

Saturation Concerns
Drivers relating to the mitigation of LNAPL migration and/or reduction of LNAPL mobility

LNAPL Saturation Concerns (mobility and migration issues)
- Potential for LNAPL to spread and create new or increased risk (migration toward surface water, property boundary, underground utilities)
- Aesthetic/Nuisance issues

Risk: Are unacceptable dissolved phase, vapor phase or direct contact exposures associated with the LNAPL under any use scenarios?

Yes → Do feasible options exist to mitigate unacceptable risk through compositional change?

No → Can institutional/engineering controls provide effective risk mitigation?

Yes → **Cost-Benefit** Is there potential benefit to partial treatment/removal that outweighs costs?

Yes → Implement treatment/removal action

No → Are controls required?

No → ④ No Further Action

Migration: Is LNAPL migrating or potentially migrating (i.e., mobile along perimeter)?

① No → **Mobility**: Is LNAPL potentially mobile within stable LNAPL perimeter?

② No → **Recoverability**: Is LNAPL readily recoverable?

No → **Cost-Benefit** Will potential benefit of LNAPL recovery outweigh costs?

Yes → Implement LNAPL Recovery Remedy

Yes → Do feasible options exist to mitigate migration through LNAPL recovery or mass control?

No → Are controls required?

Yes → ③ Implement Controls → Implement Long-Term Stewardship/ Monitoring Plan (**as required**) → No Further Action

① AGE, LNAPL WELL OBSERVATIONS INDICATE A STABLE LNAPL BODY.

② NO MEASURABLE LNAPL IN WELLS, SHEEN OBSERVED.

③ NO CURRENT RISK DUE TO LNAPL PRESENCE.

④ DEED RESTRICTION IN PLACE WILL MITIGATE RISK ASSOCIATED WITH DIRECT CONTACT, DRINKING WATER AND VAPOR INTRUSION PATHWAYS. GSI NOT A RELEVANT PATHWAY AS UNDERGROUND UTILITIES HAVE BEEN DESTROYED/PLUGGED.

RACER LNAPL REMEDIAL / MANAGEMENT DECISION-MAKING PROCESS - AOI 6
RACER TRUST
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

CRA

Attachment F
Declaration of Restrictive Covenant

DECLARATION OF RESTRICTIVE COVENANT AND ACCESS EASEMENT (2)

This Declaration of Restrictive Covenant and Access Easement ("Restrictive Covenant") is made as of the 7th day of June, 2011 by RACER Properties LLC, a Delaware limited liability company, having an address at 401 South Old Woodward Avenue, Suite 370, Birmingham, MI 48009 ("RACER"), to notify parties that the "Property" described herein is a "facility" under applicable Michigan Law, and to restrict activities on and uses of, and grant certain rights of access, ingress and egress over the real property and improvements located at 299, 300 and 301 36th Street, SW, Wyoming, Kent County, Michigan, as more particularly described on Exhibit A attached hereto and incorporated herein by reference (the "Property").

1. DEFINITIONS:

1.1. "Bankruptcy Case" means the case commenced by that certain voluntary petition filed on June 1, 2009 in the Bankruptcy Court by MLC, RACER's predecessor-in-interest in the Property, and its affiliated debtors, as debtors and debtors in possession under Chapter 11 of Title 11 of the United States Code, that has been jointly administered with the Chapter 11 cases of its affiliated Debtors under Case No. 09-50026 (REG).

1.2. "Bankruptcy Court" means the United States Bankruptcy Court for the Southern District of New York.

1.3. "Claims" means any claim, action, award, cause of action, suit, inquiry, demand, judicial or administrative proceeding, determination, hearing, order, decree, judgment, settlement, grievance, mediation or arbitration.

1.4. "Confirmation Order" means that certain Findings of Fact, Conclusions of Law, and Order Pursuant to Sections 1129(a) and (b) of the Bankruptcy Code and Rule 3020 of the Federal Rules of Bankruptcy Procedure Confirming Debtors' Second Amended Joint Chapter 11 Plan, dated March 29, 2011, issued by the Bankruptcy Court and filed as Docket No. 9941 in the Case, a copy of which Confirmation Order (without exhibits) is attached hereto as Exhibit B and incorporated herein by reference, and pursuant to which the Bankruptcy Court has approved, among other things, the "Plan" described therein, and the Settlement Agreement.

1.5. "Environmental Action" means any response, removal, investigation, sampling, remediation, reclamation, closure, post-closure, corrective action, engineering controls, institutional controls, deed restrictions, oversight costs, operation, monitoring

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1450 W Long Lake Rd.
Suite 430
Troy, MI 48098

COMMERCIAL
55561031 cmw

and/or maintenance authorized or required by any Environmental Laws or Governmental Authority, or authorized in the Plan or Settlement Agreement, including without limitation, sampling and analyzing soils and groundwater, performing general inspections, other environmental sampling, tests, borings, surveys and engineering studies in each case with respect to the Property.

1.6. "Environmental Condition" means any Release or other event, circumstance or condition existing at, on, in or under the Property, or the ambient air around the Property, that violates any Environmental Law, or any other event, circumstance or condition which, with the giving of notice or passage of time would reasonably be expected to violate an Environmental Law if not remediated, abated and/or cured.

1.7. "Environmental Law" means any and all Laws as in effect relating to (a) pollution, (b) the protection and/or safety of the environment or natural resources, (c) the management of Hazardous Substances, or (d) the use, storage, recycling, treatment, generation, transportation, processing, handling, labeling, production, Release, or disposal of Hazardous Substances, including, without limitation: (i) the Clean Air Act; (ii) the Federal Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), as amended by the Hazardous Waste and Solid Waste Amendments of 1984; (iii) the Comprehensive Environmental Response Conservation and Liability Act (42 U.S.C. 9601 *et seq*), as amended by the Superfund Amendments and Reauthorization Act of 1984; (iv) the Federal Water Pollution Control Act; (v) the Toxic Substances Control Act (15 U.S.C. 2601 *et seq*); (vi) the Federal Insecticide, Fungicide and Rodenticide Act, as amended; (vii) the Safe Drinking Water Act; (viii) OSHA; (ix) the Hazardous Liquid Pipeline Safety Act; (x) the Hazardous Materials Transportation Act; (xi) Solid Waste Disposal Act, as amended; (xii) the National Environmental Policy Act; and (xiii) NREPA, including Part 201, as any of the foregoing has been, and may be, amended, supplemented and/or replaced from time to time.

1.8. "Governmental Authority" means any Government, and any governmental official, agency, entity, court or tribunal of competent jurisdiction instrumentality, or authority having jurisdiction over the Property pursuant to Environmental Laws.

1.9. "Hazardous Substances" means all materials, substances and/or wastes defined, designated, regulated or classified as hazardous, toxic or radioactive under any applicable Environmental Law, whether by type or by quantity and shall include but not be limited to petroleum or any derivative or by-product thereof and asbestos-containing materials. The term "Hazardous Material" includes, without limitation, any material or substance which is (a) defined as a "hazardous waste," "extremely hazardous waste," "restricted hazardous waste," "hazardous substance," "hazardous material," or "toxic substance" by any Environmental Law, (b) asbestos or asbestos containing materials, molds, urea formaldehyde or radon that affect health, indoor air quality and/or structural integrity of the Improvements, (c) polychlorinated biphenyls (PCBs) or PCB-containing materials or fluids, (d) any petroleum, gasoline, oil, petroleum hydrocarbons, petroleum products (or by-products), crude oil and any constituents, additives, fractions or derivatives thereof, and (e) any other substance that is subject to regulation under any Environmental Law or with respect to which any Environmental Law or Governmental Authority requires Environmental Action.

1.10. "Governments" means, the United States of America (on behalf of the Environmental Protection Agency), the States of Delaware, Illinois, Indiana, Kansas, Michigan, Missouri, New Jersey, New York, Ohio, Virginia and Wisconsin, the Louisiana Department of Environmental Protection, and the Department of Environmental Protection of the Commonwealth of Pennsylvania and the Saint Regis Mohawk Tribe.

1.11. "Land Use Controls" means, collectively, any deed restrictions, covenants, conditions, reservations, easements, rights of way, engineering or institutional controls and/or other Liens affecting the future use of, or access to, the Property in connection with any Environmental Condition or Environmental Action, or otherwise required under the Settlement Agreement, as may be required by Governmental Authority acting pursuant to Environmental Law, or as RACER and Owner may otherwise agree.

1.12. "Laws" means all applicable laws, statutes, rules, regulations, ordinances, statutes, conditions, codes, judgments, orders, decrees, settlements, injunctions, technical or other standards, policies, determinations, writs, and other requirements of any Agency, or any other instrumentality having jurisdiction over the Property, together with any applicable common law, and any and all permits, licenses, approvals or authorizations issued thereunder.

1.13. "Liability" means any and all direct losses, damages, debt, deficiencies, obligations, liabilities, Claims, awards, interest, fines, penalties or costs of any nature or kind, including all fees, costs and expenses, whether joint or several, secured or unsecured, and due or to become due; and including without limitation, all reasonable fees, disbursements and expenses of attorneys, consultants and other experts arising therefrom or related thereto, but specifically excluding consequential damages or lost income, value or profits or punitive or treble damages or penalties of any type or manner.

1.14. "MDEQ" means the Michigan Department of Environmental Quality, its predecessor and successor agencies or entities, and those persons or entities acting on its behalf.

1.15. "MLC" mean Motors Liquidation Company, formerly known as General Motors Corporation,

1.16. "NREPA" means Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the rules promulgated pursuant thereto.

1.17. "Part 201" means Part 201 of the NREPA, MCL 324.20101 *et seq.* and the rules promulgated pursuant thereto.

1.18. "Permitted Uses" means, with respect to the Property, any heavy industrial, light industrial, high tech or other non-residential and non-retail shopping redevelopment uses, of the Property; provided, however, with respect to that portion of the Property lying north of 36th Street and being designated as Tax parcel numbers 41-17-13-455-049 and 41-17-13-455-050, it shall also include "commercial uses", as defined under applicable Environmental Laws, other than those related to child care or educational purposes.

1.19. "Purchase Agreement" means that certain Real Estate Purchase Contract dated December 23, 2010 between MLC and Thunder Ventures LLC for the sale

and conveyance of the Property to Thunder Ventures LLC, or another party designated by Thunder Ventures LLC, in accordance with, and subject to, the terms thereof, as modified, amended, supplemented and/or assigned.

1.20. "RACER" means RACER Properties LLC, and its successors and assigns.

1.21. "Release" means a release as defined in Part 201 or any part of NREPA or as otherwise defined under any Environmental Law, including, without limitation, releasing, spilling, leaking, emitting, discharging, injecting, escaping, leaching, disposing, transporting or dumping of Hazardous Substances.

1.22. "Representatives" means, with respect to each party, its agents, employees, contractors, representatives, servants, licensees, sublicensees, officers, directors and stakeholders, affiliates, successors and assigns, and such other persons over which said party exerts control.

1.23. "Settlement Agreement" means that certain Environmental Response Trust Consent Decree and Settlement Agreement among the Debtors, the Governments, and EPLET, LLC (not individually but solely in its representative capacity as Administrative Trustee of the Trust established thereby), to settle, compromise and resolve various disputes between the Debtors and the Governments relating to the "Properties" described therein, which includes the Property, and to otherwise address the matters set forth therein, as more particularly set forth therein, a copy of which is attached as Exhibit C and incorporated by reference.

1.24. "Subsequent Owner" means any individual or entity subsequent to RACER who, at any given time, is then current title holder of the Property, or who has any interest in the Property, including without limitation any ownership interest, any possessory rights, any easement, a leasehold interest, mortgage, or other interest in the Property.

1.25. "Trust" means the Revitalizing Auto Communities Environmental Response Trust, a trust formed under the Laws of the State of New York, and the direct parent of RACER.

1.26. "USEPA" means the United States Environmental Protection Agency its successor agencies or entities, and those persons or entities acting on its behalf.

All other capitalized terms used in this document which are not defined in this document, shall have the meaning ascribed thereto in the NREPA or the Settlement Agreement, as appropriate.

2. BACKGROUND:

2.1. The Property was conveyed to RACER by MLC effective as of March 31, 2011.

2.2. The Confirmation Order, the Settlement Agreement, the Purchase Agreement, and related documents may impose upon RACER obligations for Environmental Actions at, on, about and related to the Property and the MDEQ or the USEPA may also require RACER to undertake Environmental Actions to comply therewith and/or with applicable Environmental Laws.

2.3. Hazardous Substances have been found in soils and groundwater in or on the Property at levels that exceed the unrestricted residential criteria under Part 201 and the Property is listed on the MDEQ's Part 201 Site List under the site name "General Motors - CPC Metals" and MDNRE Part 201 site identification number 41000115.

2.4. This Restrictive Covenant is made as of the date hereof, and intended to be contemporaneously recorded with the Kent County Register of Deeds, to protect the public health, safety, and welfare, and the environment, by prohibiting or restricting activities that could result in unacceptable exposure to Environmental Conditions in, at, on or under the Property. This Restrictive Covenant is not currently required by any Governmental Authority. Environmental site assessments and other Environmental Actions have been undertaken and will continue to occur to address Environmental Conditions in, at, on or under the Property. It is believed that the MDEQ will require restrictive covenants that are in addition to and/or different than this Restrictive Covenant or that, following completion of various Environmental Actions in, at, on or under the Property, the MDEQ may require and/or allow different restrictive covenants. Therefore, this Restrictive Covenant may be modified, amended, supplemented and/or restated in its entirety, and any Subsequent Owner is deemed to have consented to such modifications, amendments, supplements and/or restatements as may, from time to time, be: (a) required by any Governmental Authority, or (b) approved by any Governmental Authority upon request by RACER (or any Representative thereof) in accordance with the Confirmation Order, Settlement Agreement and/or Purchase Agreement, so long as RACER delivers prior written notice to Subsequent Owner of its intend request for such approval, and consults in good faith with Subsequent Owner in connection therewith, or (c) approved by any Governmental Authority upon a request by any Subsequent Owner and RACER (or the Trust) acting together. Notwithstanding anything to the contrary set forth in Section 2.4 or elsewhere herein, a Subsequent Owner who is the record title holder of the Property, at its sole cost and expense, may use any available legal means to contest or dispute any modifications, amendments, supplements and/or restatements required by any Governmental Authority, so long as Subsequent Owner delivers prior written notice to RACER reasonably in advance thereof, and RACER has the opportunity to contest or be heard on such contest, or dispute.

2.5. It is recommended that prospective purchasers or users of the Property undertake all appropriate inquiry under applicable Environmental Laws prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of Section 20107a of the NREPA, MCL 324.20107a.

3. DECLARATION OF LAND USE OR RESOURCE USE RESTRICTIONS:

RACER declares and covenants that the Property shall be subject to the following Restrictions, requirements and conditions:

3.1. The Property may be used only for the Permitted Uses. No residential use may be made of the Property. Any site modifications required in, at, in, on or under the Property to accommodate the Permitted Uses (including without limitation, soil and/or Debris management and surface water and/or groundwater management and any other matters relating to the use, operations, development, excavation, grading, construction, or demolition at the Property), is the sole obligation and liability of the Subsequent Owner (at the time of such activities) and will be conducted at such Subsequent Owner's sole expense, cost and Liability.

3.2. The use of groundwater at, in, or under the Property by any person or entity for any purpose, including potable and non-potable uses, shall be strictly prohibited. No wells or other devices to extract groundwater for consumption, irrigation, or any other use, except for wells and devices that are intended for environmental assessment or monitoring or that are part of an Environmental Action, may be drilled, constructed or placed in, on or at the Property. Short-term dewatering for construction purposes is permitted provided the dewatering, including management and disposal of the groundwater, is allowed under and complies with all applicable Environmental Laws and does not cause or result in a new Release, exacerbation of any existing Environmental Condition, or any other violation of Environmental Laws including, but not limited to, Part 201.

3.3. Each Subsequent Owner shall prohibit activities on the Property that may (a) disturb, disrupt, delay or otherwise interfere with any Environmental Actions, including the integrity, operation and/or maintenance thereof, or (b) exacerbate or disturb any Environmental Condition. Notwithstanding the foregoing, or anything to the contrary set forth herein, RACER and each Subsequent Owner shall consult with one another, using all commercially reasonable efforts to coordinate their respective activities to avoid having such respective activities materially or unreasonably interfere with, disrupt or delay the activities of the other party; provided however, RACER has limited funds with which to undertake and complete its Environmental Actions and shall not be required to expand its obligations (including increasing the cost) for Environmental Actions in connection therewith, or with any change in use of the Property not necessary for the Permitted Use. Accordingly, nothing in this duty to consult and coordinate activities shall obligate RACER to incur additional costs in performing the Environmental Actions.

3.4. No Subsequent Owner shall remove, cover, obscure, or otherwise alter or interfere with the permanent markers placed on the Property, if required by the MDEQ or any other Governmental Authority, or otherwise in connection with the performance of any other Environmental Actions. Each Subsequent Owner shall keep vegetation and other materials clear of the permanent markers to assure that the markers are readily visible.

3.5. Each Subsequent Owner shall manage all soils, media and/or debris located on the Property in accordance with the applicable requirements of Section 20120c of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Subtitle C of the Resource Conservation and Recovery Act, 42 USC § 6901 *et seq.*; the administrative rules promulgated thereunder; and all other relevant Environmental Laws.

3.6. Vapor intrusion barriers may be a Land Use Control used to prevent exposure to Hazardous Substances (in the form of vapors) rather than the complete removal of their source. Therefore, to the extent required by any Governmental Authority, or as reasonably needed to prevent exposure to Hazardous Substances (in the form of vapors), any redevelopment of the Property shall require the construction and installation of vapor intrusion barriers for any building or other enclosed structure that will be occupied by any persons for any purposes. Any persons excavating soils or working in trenches or underground shall be notified of possible Hazardous Substances (in the form of vapors) and advised to take appropriate precautions.

3.7. Any and all discarded materials located on and/or under the surface of the Property, including, but not limited to, building materials from demolition activities; domestic and industrial trash; tires; automotive parts; used containers which held materials

such as paint, antifreeze, gasoline, and other household substances; materials painted with lead-base paints or otherwise; wood, and other materials which may have been painted with lead-based paints; roof shingles and other building materials which may contain asbestos-containing materials (collectively, "Debris") and/or soil management and surface water and/or groundwater management required or necessary because of excavation, demolition, or soil disturbance related to the use, operations, development, excavation, grading, construction, or demolition, at, in, on, or below the Property is the sole obligation and Liability of the Subsequent Owner, except to the extent relating to Environmental Actions performed by or on behalf of RACER. Such soil and/or Debris management and surface water and/or groundwater management may include in-place management, excavation, sediment and erosion control, and disposal or other soil and Debris management options which are allowed or required under applicable Environmental Laws.

3.8. No Subsequent Owner shall Release any Hazardous Substances, on, at, under, or below the Property, except as incidental to industrial processes that do not have as a principal purpose the treatment, storage or disposal of Hazardous Substances, so long as and on condition that: (a) such Hazardous Substances are Released in accordance with Environmental Laws, (b) the Property maintains generator-only status, and (c) such Release does not exacerbate or disturb any Environmental Condition or increase the cost of any Environmental Action. A Subsequent Owner may: (a) accumulate such Hazardous Substances as allowed under applicable Environmental Laws for off-site treatment, off-site storage, or off-site disposal, and (b) use commercial products on-site which may contain such substances, in each case, subject to the foregoing conditions.

3.9. Any and all management of utility lines or piping, including, without limitation, any sanitary or storm sewers, any gas, water, electrical, or any other gas, water or electrical utility lines or piping, and any such materials that may be included therein, and any and all management of any septic systems, and any such materials that may be included therein, which may be present at or below the Property which management may be required or necessary to properly maintain the Property or because of excavation, demolition, or soil disturbance related to future use, development, or construction at or of the Property, is the sole obligation and Liability of the Subsequent Owner.

4. EASEMENT:

4.1. RACER retains for itself and grants, conveys and transfers to the MDEQ and any appropriate Governmental Authorities, a non-exclusive easement (the "Easement") over the Property as reasonably necessary or appropriate to (a) conduct and complete any and all Environmental Actions, together with any reasonably needed ingress and egress to the Easement area, and access over the remainder of the Property to places on the Property where such Environmental Actions are occurring, (b) verify that such Environmental Actions conform with all remedial action plans for such Environmental Actions, including the right to inspect the operation of the Environmental Actions, and inspect any records relating thereto, and to perform any actions necessary to maintain compliance with, Part 201 of NREPA, and (c) access, ingress and egress to and over such portions of the Property as are required to ensure the compliance of the Subsequent Owner with this Agreement and the Land Use Controls, unless and until the Environmental Actions have been completed, as determined pursuant to Section 4.4.

4.2. The rights and powers reserved to RACER in this Restrictive Covenant do not, and shall not be interpreted to, obligate RACER to exercise any of such rights and powers for any reason.

4.3. RACER shall be responsible for ensuring that all equipment and other personal property utilized by and on behalf of RACER at, on, or in the Property shall be stored safely and in a manner reasonably determined not to create a dangerous condition on the Property. Furthermore, to the extent reasonably feasible, any permanent or long term wells or other monitoring devices installed by or on behalf of RACER, and any Environmental Actions, shall be designed and undertaken in a manner so as not to unreasonably interfere with the redevelopment and reuse of the Property for the Permitted Use, subject to and in accordance with this Restrictive Covenant and the Settlement Agreement.

4.4. The Easement shall remain in full force and effect unless and until such time as the following occurs (a "Terminating Event") (a) the MDEQ and any other Governmental Authority determines that the Environmental Actions have been completed and/or its access or RACER's access to the Property is no longer needed in order to perform, complete and/or monitor the Environmental Actions, or otherwise connection therewith and no more monitoring of the soils or groundwater on the Property is needed, and (b) and the earlier to occur of (x) the MDEQ issues (or has otherwise waived in writing the requirement for) a No Further Action Letter or an equivalent written expression of environmental regulatory closure with respect to the Easement Property, and/or (y) the MDEQ otherwise waives in writing as against RACER, or releases in writing RACER and RACER's Representatives from, any and all further obligations for Required Remedial Actions in, on or at the Property. Any Subsequent Owner shall have the right to seek such a determination from MDEQ and all such Governmental Authorities, at any time.

4.5. All Subsequent Owners shall cooperate with RACER, its Representatives and all applicable Governmental Authorities, in all commercially reasonably respects, and as required by any Environmental Law or any Governmental Authority, in connection with the performance and completion of the Environmental Actions, and shall not unreasonably or materially interfere with, disrupt, impair, inhibit, restrict or otherwise impact such Environmental Actions.

4.6. RACER shall be solely responsible and Liable for any and all Environmental Actions it undertakes at the Property, including any violations of Environmental Law, in each case to the extent arising from or related to such Environmental Actions, except to the extent caused or exacerbated by any Subsequent Owner, or any Representative of a Subsequent Owner, or their negligent act or omission.

4.7. This Easement may be assigned by RACER to a designee, successor or assignee who has any responsibility for completing an Environmental Action.

5. MISCELLANEOUS:

Notice. All Subsequent Owners shall provide notice to the MDEQ of the Subsequent Owner's intent to transfer any interest in the Property at least 14 business days prior to consummating the conveyance. A conveyance of title, easement, or other interest in the Property shall not be consummated by the Owner without adequate and complete provision for compliance with the applicable provisions of Section 20116 of the NREPA. The notice

required to be made to the MDEQ under this Paragraph shall be made to: Chief, Remediation Division, Michigan DEQ, P.O. Box 30426, Lansing, MI 48909-7926; and shall include a statement that the notice is being made pursuant to the requirements of this Restrictive Covenant, DNRE Site Reference Number 41000115. A copy of this Restrictive Covenant shall be provided to all future owners, heirs, successors, lessees, easement holders, assigns, and transferees by the person transferring the interest.

5.1. Running with the Land. This Restrictive Covenant, and the Easement granted herein, shall run with the Property and shall be binding on all Subsequent Owners, their Representatives and assigns. This Restrictive Covenant may only be modified or rescinded with the written approval of RACER (or the Trust, if RACER no longer exists) and the MDEQ, except as otherwise expressly provided herein; provided, however, once a Terminating Event has occurred, the approval of RACER (or the Trust) shall no longer be required as aforesaid.

5.2. Enforcement. The State of Michigan, through the MDEQ, RACER and any Subsequent Owner may enforce the restrictions set forth in this Restrictive Covenant by legal action in a court of competent jurisdiction.

5.3. Severability. If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof, and all such other provisions shall continue unimpaired and in full force and effect.

5.4. Modification. This Restrictive Covenant is made for the benefit of the general public and Subsequent Owners and operators of the Property, and is not intended for the benefit of RACER or its successors or assigns, except to the extent necessary or appropriate in order for the performance and completion of its Environmental Actions as provided in this Restrictive Covenant. Accordingly, any Subsequent Owner who is the record title holder of the Property may petition the MDEQ for modification of any provision of this Restrictive Covenant, and such modifications may be made without any approval or consent of RACER or its successors or assigns, if and to the extent approved by the MDEQ except to the extent otherwise provided in the Settlement Agreement or by applicable Governmental Authority; so long as such Subsequent Owner has provided RACER with prior reasonable notice of its intent to do so, and with a copy of the petition. The Easement shall be terminated only as provided in paragraph 2 of Section D of this Restrictive Covenant, or as may be provided by an amendment, modification, supplement and/or restate thereof that is approved, signed and recorded by RACER (or its successor or assigns), the MDEQ and the Subsequent Owner who holds record title to the Property.

[Signature Page Follows]

MLC #1198
Tax Parcel ID:
41-17-13-455-050 (Parcel 1), 41-17-24-201-007 (Parcel 3) and 41-17-24-178-007 (Parcel 4)
County: Kent

This Restrictive Covenant is made by the undersigned as of the 2nd day of June, 2011.

RACER PROPERTIES LLC
By: EPLET, LLC, solely in its capacity as Non-member Manager

By: _____
Elliott P. Laws, not individually, acting solely in his capacity as Managing Member

DISTRICT OF COLUMBIA

CITY OF WASHINGTON

On June 2nd, 2011, Elliott Laws, who is either personally known to me or who presented his driver's license as identification, appeared before me and signed this document solely in his representative capacity as the Managing Member of EPLET, LLC, acting in its capacity as the non-member Manager of RACER Properties LLC.

_____
Notary Public, Dist of Columbia County, City of Washington
Acting in _____ County, _____
My commission expires: May 14, 2014

Myung H. Wang
Notary Public, District of Columbia
My Commission Expires 5/14/2014

This document is exempt from state and county transfer taxes pursuant MCL 207.505(a) and MCL 207.526(a).

MLC #1198
Tax Parcel ID:
41-17-13-455-050 (Parcel 1), 41-17-13-455-049,
41-17-24-201-007 (Parcel 3) and 41-17-24-178-007 (Parcel 4)
County: Kent

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

Tax ID Number(s): 41-17-13-455-050 (Parcel 1), 41-17-13-455-049, 41-17-24-201-007 (Parcel 3) and 41-17-24-178-007 (Parcel 4)

Land Situated in the City of Wyoming in the County of Kent in the State of Michigan.

Parcel 1:

Lots 833, 844, 883, and 894 except the Northerly 9 feet thereof, also except the East 7 feet of Lot 833, Home Acres No. 2, City of Wyoming, Kent County, Michigan, as recorded in Liber 30 of Plats, Page 13;

Also, Lots 834 and 835, EXCEPT the East 7 feet thereof and all of Lots 842, 843, 884, 885, 892, 893, and 922, Home Acres No. 2, City of Wyoming, Kent County, Michigan, as recorded in Liber 30 of Plats, Page 13;

Also, Lots 841, 886, 887, 888, 889, 890, 891 and 923 Homes Acres No. 2, EXCEPT that part lying South of a line described as: Commencing at the South 1/4 corner of Section 13, T6N, R12W, City of Wyoming, Kent County, Michigan; thence S 88° 04'34" East 100.65 feet along the South line of said Section to a point of intersection with the West line of said Lot 923 extended Southerly to said Section line; thence N 0° 38'26" West 50.05 feet to a point 50.00 feet North (perpendicular measurement) from the South line of said Section 13, and the True Place of Beginning of said line; thence S 88° 04'34" East 852.18 feet parallel with the South line of said Section to the East line of said Lot 886 and the place of ending of said Line.

Also, that part of Hillcroft Avenue in Home Acres No. 2, described as follows: Commencing at the Southeast corner of Lot 923 of said plat; thence East 60 feet to the Southwest corner of Lot 891 of said plat; thence North 249 feet to a point on the West line of Lot 894 of said plat; thence West 60 feet to a point on the East line of Lot 922 of said plat at a point 249 feet North of the place of beginning; thence South 249 feet to the place of beginning. EXCEPT that part lying South of a line described as being 50.00 feet North (perpendicular measurement) from the South line of said Section 13.

And Also, that part of Birchwood Avenue in Home Acres No.2, described as follows: Commencing at the Southeast corner of Lot 886 of said plat; thence East 60 feet to the Southwest corner of Lot 841 of said plat; thence North to a point which is 122 feet North of the SW corner of Lot 842 to a point on the West line of Lot 844 of said plat; thence West 60 feet to the East line of Lot 883 of said plat at a point 122 feet North of the SE corner of Lot 885 of said plat; thence South along the West line of said Birchwood Avenue to the place of beginning. EXCEPT that part lying South of a line described as being 50.00 feet North (perpendicular measurement) from the South line of said Section 13.

Said Parcel 1 may also be described as:

All of Lots 842, 843, 884, 885, 892, 893, 922 and part of Lots 833, 834, 835, 841, 844, 883, 886, 887, 888, 889, 890, 891, 894 and 923 and vacated portions of Hillcroft Avenue and Birchwood Avenue, Home Acres No. 2, Section 13, T6N, R12W, City of

Wyoming, Kent County, Michigan, described as: Commencing at the South 1/4 corner of said Section; thence South 88°22'14" East along the South line of said Section 100.15 feet; thence North 00°49'32" West 50.05 feet along the Southerly extension of the West line of said Lot 923 and the West line of said Lot 923 to the North line of 36th Street and the Place of Beginning; thence North 00°49'32" West 234.58 feet along the West lines of said Lots 923 and 922 to the Northwest corner of said Lot 922; thence South 88°20'11" East 511.85 feet along the North line of said Lot 922 to the Northeast corner of said Lot 922; thence South 01°02'06" East 2.60 feet along the East line of said Lot 922; thence South 88°20'11" East 60.07 feet to the West line of said Lot 894; thence North 01°02'06" West 12.60 feet along the West line of said Lot 894 to the South line of the North 9.00 feet of said Lot 894; thence South 88°23'44" East 279.76 feet along the South line of the North 9.00 feet of said Lots 894 and 883 to the East line of said Lot 883; thence South 01°03'06" East 16.00 feet along the East line of said Lot 883; thence South 88°20'11" East 60.07 feet to the East line of vacated Birchwood Avenue; thence North 01°03'06" West 16.06 feet along the West line of said Lot 844 to the South line of the North 9.00 feet of said Lot 844; thence South 88°23'44" East 272.92 feet along the South lines of the North 9.00 feet of said Lots 844 and 833 to the West line of the East 7.00 feet of said Lot 833; thence South 01°03'06" East 138.00 feet along the West lines of the East 7.00 feet of said Lots 833, 834 and 835 to the South line of said Lot 835; thence North 88°23'44" West 226.26 feet along the South lines of said Lots 835 and 842 to the Northeast corner of said Lot 841; thence South 01°03'06" East 106.43 feet along the East line of said Lot 841 to the North line of 36th Street; thence North 88°22'14" West along the North line of 36th Street 959.31 feet to the Place of Beginning.

Parcel 3:

That part of McQueen-Doyle Park No. 1, Wyoming Township, Kent County, Michigan, (now situated in the City of Wyoming), as recorded in Liber 30 of Plats, Page 10, described as: Commencing at a point on the North line of said plat 82.64 feet S87° 49'30" East from the Northwest corner of said plat; thence S 87° 49'30" East 150.0 feet along the North line of said plat, to the East line of Lot 152 of said plat extended North; thence S 0° 02'30" East 165.15 feet along the East line of said Lot 152 to the Southeast corner of said Lot; thence N87° 49'30" West 50 feet along the South line of Lot 152 to the Southwest corner of said Lot; thence S 0° 02'30" East 30.0 feet along the East line of Lot 146 of said plat; thence S 26° 27'40" West 111.96 feet to the Southwest corner of said Lot 146; thence S 0° 02'30" East 16.51 feet to the center line of Floyd Street (33 feet wide); thence N 87° 49'30" West 132.0 feet to the West line of McQueen-Doyle Park No. 1; thence N 0° 09'30" West 148.63 feet along the West line of said Plat; thence S 87° 49'30" East 82.29 feet along the North line of Lot 148 of said Plat and its Westerly extension to the Northeast corner of said Lot 148; thence N 0° 02'30" West 165.15 feet along the West line of Lot 150 and its Northerly extension to the place of beginning.

Also, Lot 149 of McQueen-Doyle Park No. 1 and that part of Lots 145, 153, 154 and 155 of McQueen-Doyle Park No. 1 which lies Westerly of a line which is 33 feet West of the centerline of relocated Stafford Avenue as constructed and that part of Lot 146 McQueen-Doyle Park No. 1 lying Westerly of a line which is 33 feet West of the centerline of relocated Stafford Avenue as constructed and which lies Easterly of a line described as follows: Commencing at the Southwest corner of said Lot 146; thence Northeasterly to the East line of said Lot at a point 30 feet South of the Northeast corner of said Lot.

Also, that part of vacated 40th Street lying West of relocated 40th Street and Stafford Avenue.

Also, the West 1/2 of the Northeast 1/4 of Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, EXCEPT the Conrail Railroad right of way, also excepting a strip of land 40 feet in the width lying West of and adjoining to the centerline of Buchanan Avenue for highway purposes.

Also, Except that part of the West 1/2 of the Northeast 1/4 of Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, described as: Commencing at the point of intersection of the South line of said West 1/2 of the Northeast 1/4 with the West line of Buchanan Avenue (being 40 feet distant Westerly from the centerline of Buchanan Avenue) said point being 75.28 feet N87° 49'30" West from the Southeast corner of said West 1/2 of the Northeast 1/4; thence N 87° 49'30" West 828.27 feet along the South line of said West 1/2, of the Northeast 1/4; thence N 47° 10'30" East 46.67 feet to a point 33 feet distant North from the South line of the West 1/2 of the Northeast 1/4 ; thence S 87° 49'30" East 695.3 feet; thence Northeasterly 125.8 feet along a 101.8 foot radius curve to the left (the chord of which bears 117.95 feet N 56° 46'24" East) to said West line of Buchanan Avenue; thence South 101.4 feet along the West line of Buchanan Avenue to the Place of beginning.

Also, Except that part of the West 1/2 Northeast 1/4 of Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, described as: Commencing at the Northeast corner of the West 1/2 Northeast 1/4 of said Section; thence South 33.03 feet along the East line of said West 1/2 Northeast 1/4; thence N 87° 22' West 40.04 feet parallel with the North line of said Section to the Place of Beginning of this description; thence N 87° 22' West 10.0 feet along the South line of 36th Street; thence S 43° 41' East 14.46 feet to a point on the West line of Buchanan Avenue which is 10.0 feet South from the Place of Beginning; thence North 10.0 feet to the Place of Beginning.

And further Excepting, all that part of the West 1/2 of the Northeast 1/4 of Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, described as: Commencing at the North 1/4 corner of said Section 24; thence S 88° 04'34" East 36.85 feet along the North line of said Section to a point of intersection with the East line of the CONRAIL (formerly Pennsylvania R.R. and Penn Central R.R.) right-of-way extended Northerly to said Section line; thence S 0° 32'11" West 33.03 feet along said Northerly extended railroad right-of-way line to a point which is 33.00 feet South (perpendicular measurement) from the North line of said Section for the Place of Beginning of this description; Thence S88° 04'34" East 1239.0 feet parallel with the North line of said Section to a point which is 50.40 feet N 88° 04'34" West (formerly described as N 87° 22' West) from the East line of the West 1/2 Northeast 1/4 of said Section 24; thence S 44° 23'58' East 14.47 feet (formerly described as S 43° 41' East 14.46 feet) to the Westerly right-of-way line of Buchanan Avenue (being 40.00 feet perpendicular measurement West from the center line of said Avenue) at a point which is 43.00 feet South perpendicular measurement from the North line of said Section 24; thence S 0° 43'22" East 37.02 feet along said Westerly right-of-way line of Buchanan Avenue, N 44° 23'58" West 43.39 feet to a point which is 50.00 feet South (perpendicular measurement) from the North line of said Section 24; thence N 88° 04'34" West 1219.05 feet parallel with the North line of said Section to the East line of CONRAIL railroad right-of-way; thence N 0° 32'11" East 17.02 along said railroad right-of-way line to the Place of Beginning.

Also together with that part of vacated Buchanan Avenue described as, that part of the West 1/2, Northeast 1/4, Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, described as: Commencing at the NE corner of said Section 24; thence N 88° 04'34" West 1323 feet along the North line of said Section 24 to center line of Buchanan Avenue (South) and also being the so called Northeast corner of said West 1/2, Northeast 1/4; thence S 0° 43'22" East 512.88 feet along said center line of Buchanan Avenue; thence Southerly 599.97 feet along said center line on a 22,727.58 foot radius curve to the left, the long chord of which bears S 0° 02'00" West 599.95 feet; thence S 0° 47'23" West 328.37 feet along said center line; thence N 89° 12'37" West 40 feet to the West right of way line of Buchanan Avenue to the Place of Beginning of this description; thence S 0° 47'23" West 272.03 feet along the West right of way line of said Avenue; thence Southerly 206.78 feet along said West right of way line on a 29,932.44 foot radius curve to the left, the long chord of which bears S 0° 35'31' West 206.78 feet; thence S89° 58'46"East 5.71 feet; thence N 0° 01'14" East 478.78 feet to the Place of Beginning.

Parcel 4:

That part of the East 1/2 of the East 1/2 of the Northwest 1/4 of Section 24, T6N, R12W, City of Wyoming, Kent County, Michigan, described as: Commencing at the North 1/4 corner of said section; thence South 88° 04' West 163.4 feet along the North line of said Section to the Westerly line of the Consumers Power Company right-of-way; thence South 4° 32'40" East 990.0 feet along said Westerly right-of-way line to the Point of Beginning; thence South 4° 32'40" East along said right-of-way line 1097.25 feet; thence South 88° 04'West 465.75 feet parallel with the North line of said section to the East line of Clay Avenue; thence North 4° 26' West 225.74 feet along the East line of Clay Avenue; thence Northeasterly 443.47 feet on a 533.66 foot radius curve to the right, the long chord of which bears North 19° 22'23" East 430.82 feet; thence North 43° 10'45" East 134.26 feet; thence Northeasterly 421.36 feet on a 595.22 foot radius curve to the left, the long chord of which bears North 22° 53'58" East 412.62 feet to the intersection of the East line of Clay Avenue and a line which is 990.0 feet South of the North line of said section; thence East 0.66 feet parallel to the North line of said section to the Point of Beginning.

MLC #1198
Tax Parcel ID:
41-17-13-455-050 (Parcel 1), 41-17-13-455-049,
41-17-24-201-007 (Parcel 3) and 41-17-24-178-007 (Parcel 4)
County: Kent

EXHIBIT B

CONFIRMATION ORDER

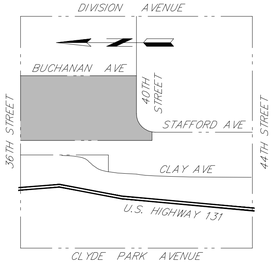
See Exhibit B-1 attached.

Appendix C
Partial As-Built Survey and Grading Plan Provided by the WBRA

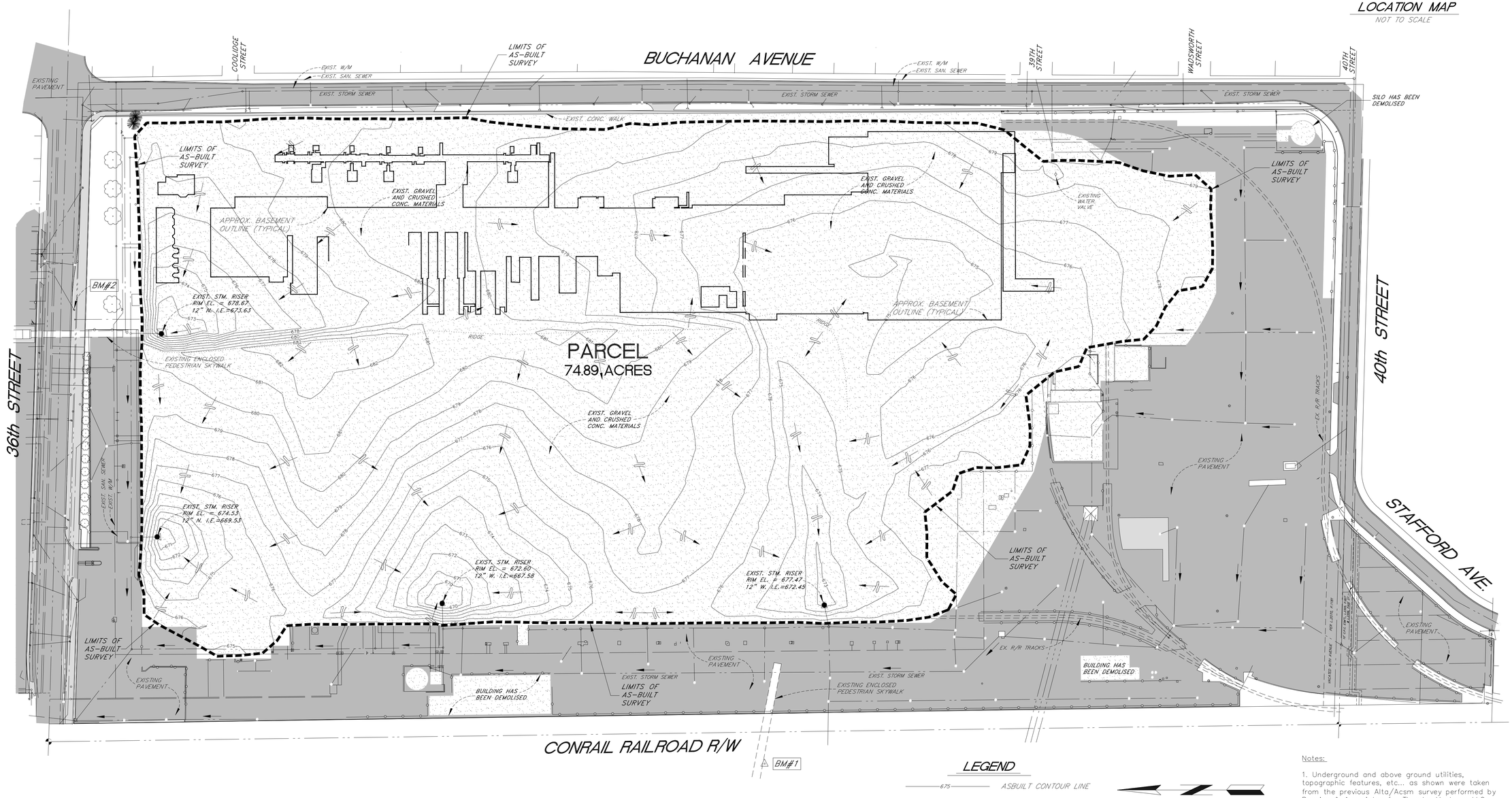
811 - CALL BEFORE YOU DIG

BENCHMARK #1 ELEV. = 676.97
TOP OF U.S.G.S. MON #41622
LOCATED 1,470' SOUTH OF AND 45' WEST OF THE NORTH 1/4 CORNER OF SEC. 24, T6N, R12W

BENCHMARK #1 ELEV. = 676.39
TOP OF BOAT SPIKE IN N. SIDE OF P. POLE LOCATED 887' EAST OF AND 52' SOUTH OF THE NORTH 1/4 CORNER OF SEC. 24, T6N, R12W



LOCATION MAP
NOT TO SCALE



LEGEND

- 675 — ASBUILT CONTOUR LINE
- LIMIT OF ASBUILT SURVEY
- EXISTING PAVEMENT
- DIRECTION OF SURFACE DRAINAGE

GRAPHIC SCALE
100' 0 50' 100'
(IN FEET)
1 inch = 100 ft.

Notes:

1. Underground and above ground utilities, topographic features, etc... as shown were taken from the previous Alta/Acsm survey performed by Roosien & Associates for Thunder Ventures LLC, dated March 8, 2011. Limits of asbuilt survey as noted on the Plan.

2. Areas outside the Limits of asbuilt survey may not reflect the current conditions as an exhaustive inspection of the property was not performed as part of this project.

3. A boundary survey was not performed as part of this project.

REVISIONS:
DRAWN BY: JEP
APPROVED BY: KR
DATE: Oct. 5, 2012
REVISIONS: Oct. 8, 2012

SERVING THE NEEDS OF OUR CLIENTS SINCE 1987

Roosien & Associates
SURVEYING AND ENGINEERING
5255 PLAINFIELD AVE. NE
GRAND RAPIDS, MI 49525
TELE (616) 361-7220
FAX (616) 361-1822

PARTIAL ASBUILT SURVEY FOR 300 – 36TH STREET SW

PART OF SEC. 24, T6N, R12W
CITY OF WYOMING, KENT CO., MI

CLIENT:
STUART FARBER
THUNDER VENTURES LLC
6755 DALY ROAD
WEST BLOOMFIELD MI 48322

PROJECT NO.
120864

SHEET
1 OF 1

Appendix D
Analytical Laboratory Reports

06-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **1507084**

Dear Rawa,

ALS Environmental received 12 samples on 01-Jul-2015 01:40 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 06-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **1507084**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1507084-01	SO-017360-063015-EB-001	Soil		6/30/2015 09:50	7/1/2015 13:40	☐
1507084-02	SO-017360-063015-EB-002	Soil		6/30/2015 10:10	7/1/2015 13:40	☐
1507084-03	SO-017360-063015-EB-003	Soil		6/30/2015 10:20	7/1/2015 13:40	☐
1507084-04	SO-017360-063015-EB-004	Soil		6/30/2015 10:30	7/1/2015 13:40	☐
1507084-05	SO-017360-063015-EB-005	Soil		6/30/2015 10:45	7/1/2015 13:40	☐
1507084-06	SO-017360-063015-EB-006	Soil		6/30/2015 10:50	7/1/2015 13:40	☐
1507084-07	SO-017360-063015-EB-007	Soil		6/30/2015 10:55	7/1/2015 13:40	☐
1507084-08	SO-017360-063015-EB-008	Soil		6/30/2015 11:00	7/1/2015 13:40	☐
1507084-09	SO-017360-063015-EB-009	Soil		6/30/2015 11:05	7/1/2015 13:40	☐
1507084-10	SO-017360-063015-EB-010	Soil		6/30/2015 11:10	7/1/2015 13:40	☐
1507084-11	SO-017360-063015-EB-011	Soil		6/30/2015 11:15	7/1/2015 13:40	☐
1507084-12	SO-017360-063015-EB-012	Soil		6/30/2015 11:20	7/1/2015 13:40	☐

ALS Group USA, Corp

Date: 06-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 1507084

Case Narrative

Batch 73021, Method ICP_6020_S, Sample 1507084-12A MSMSD: The MS and MSD recoveries were outside of the control limits for Chromium, Lead and Manganese; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch 73030, Method SVO_8270_S, Sample 1507084-12A MS/MSD: The MS and MSD recoveries and RPDS were outside of the control limits for multiple compounds. The corresponding results in the parent should be considered estimated.

Batch 73166, Method CR6_7196_S, Sample 1507084-12A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

ALS Group USA, Corp

Date: 06-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **1507084**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-001
Collection Date: 6/30/2015 09:50 AM

Work Order: 1507084
Lab ID: 1507084-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**4.4**		**0.23**	**1.5**	**mg/Kg-dry**	4	7/2/2015 22:21
Lead	**17**		**0.035**	**1.5**	**mg/Kg-dry**	4	7/2/2015 22:21
Manganese	**89**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/2/2015 22:21
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**100**		**2.4**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Acenaphthene	**280**		**2.5**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Acenaphthylene	**120**		**2.1**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Anthracene	**860**		**3.3**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Benzo(a)anthracene	**2,600**		**41**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Benzo(a)pyrene	**2,100**		**14**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Benzo(b)fluoranthene	**2,900**		**23**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Benzo(g,h,i)perylene	**1,300**		**2.9**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Benzo(k)fluoranthene	**1,200**		**4.2**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Chrysene	**2,400**		**57**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Dibenzo(a,h)anthracene	**290**		**2.2**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Fluoranthene	**6,200**		**41**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Fluorene	**180**		**3.8**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Indeno(1,2,3-cd)pyrene	**1,600**		**4.2**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Naphthalene	**110**		**1.8**	**6.8**	**µg/Kg-dry**	1	7/3/2015 12:52
Phenanthrene	**3,100**		**37**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Pyrene	**4,100**		**51**	**68**	**µg/Kg-dry**	10	7/3/2015 23:43
Surr: 2-Fluorobiphenyl	*71.1*			*12-100*	*%REC*	1	7/3/2015 12:52
Surr: 4-Terphenyl-d14	*93.7*			*25-137*	*%REC*	1	7/3/2015 12:52
Surr: Nitrobenzene-d5	*54.6*			*37-107*	*%REC*	1	7/3/2015 12:52
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**3.0**		**0.26**	**0.51**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**1.4**	J	**0.13**	**2.0**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**2.8**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-002
Collection Date: 6/30/2015 10:10 AM

Work Order: 1507084
Lab ID: 1507084-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**22**		**3.8**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Acenaphthene	**19**		**4.1**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Acenaphthylene	U		3.4	11	µg/Kg-dry	1	7/3/2015 01:16
Anthracene	**65**		**5.3**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Benzo(a)anthracene	**260**		**6.6**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Benzo(a)pyrene	**210**		**2.3**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Benzo(b)fluoranthene	**330**		**3.7**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Benzo(g,h,i)perylene	**130**		**4.8**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Benzo(k)fluoranthene	**120**		**6.9**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Chrysene	**280**		**9.2**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Dibenzo(a,h)anthracene	U		3.6	11	µg/Kg-dry	1	7/3/2015 01:16
Fluoranthene	**700**		**6.7**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Fluorene	**20**		**6.1**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Indeno(1,2,3-cd)pyrene	**130**		**6.8**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Naphthalene	U		2.8	11	µg/Kg-dry	1	7/3/2015 01:16
Phenanthrene	**350**		**6.1**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Pyrene	**400**		**8.3**	**11**	**µg/Kg-dry**	1	7/3/2015 01:16
Surr: 2-Fluorobiphenyl	*51.5*			*12-100*	*%REC*	1	7/3/2015 01:16
Surr: 4-Terphenyl-d14	*76.6*			*25-137*	*%REC*	1	7/3/2015 01:16
Surr: Nitrobenzene-d5	*52.1*			*37-107*	*%REC*	1	7/3/2015 01:16
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**10**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-003
Collection Date: 6/30/2015 10:20 AM

Work Order: 1507084
Lab ID: 1507084-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**73**		**3.7**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Acenaphthene	**110**		**3.9**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Acenaphthylene	**20**		**3.2**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Anthracene	**200**		**5.1**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Benzo(a)anthracene	**530**		**6.3**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Benzo(a)pyrene	**420**		**2.2**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Benzo(b)fluoranthene	**730**		**3.6**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Benzo(g,h,i)perylene	**310**		**4.6**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Benzo(k)fluoranthene	**220**		**6.5**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Chrysene	**560**		**8.8**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Dibenzo(a,h)anthracene	**63**		**3.4**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Fluoranthene	**1,700**		**6.4**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Fluorene	**47**		**5.8**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Indeno(1,2,3-cd)pyrene	**330**		**6.5**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Naphthalene	**19**		**2.7**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Phenanthrene	**1,800**		**5.8**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Pyrene	**1,300**		**7.9**	**10**	**µg/Kg-dry**	1	7/3/2015 01:41
Surr: 2-Fluorobiphenyl	*76.0*			*12-100*	*%REC*	1	7/3/2015 01:41
Surr: 4-Terphenyl-d14	*105*			*25-137*	*%REC*	1	7/3/2015 01:41
Surr: Nitrobenzene-d5	*69.4*			*37-107*	*%REC*	1	7/3/2015 01:41
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.3**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-004
Collection Date: 6/30/2015 10:30 AM

Work Order: 1507084
Lab ID: 1507084-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**12**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Acenaphthene	**5.9**	J	**2.6**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Acenaphthylene	**21**		**2.1**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Anthracene	**34**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Benzo(a)anthracene	**180**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Benzo(a)pyrene	**200**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Benzo(b)fluoranthene	**320**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Benzo(g,h,i)perylene	**130**		**3.0**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Benzo(k)fluoranthene	**120**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Chrysene	**190**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Dibenzo(a,h)anthracene	U		2.3	7.0	µg/Kg-dry	1	7/3/2015 02:06
Fluoranthene	**320**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Fluorene	**7.7**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Indeno(1,2,3-cd)pyrene	**130**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Naphthalene	U		1.8	7.0	µg/Kg-dry	1	7/3/2015 02:06
Phenanthrene	**100**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Pyrene	**270**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:06
Surr: 2-Fluorobiphenyl	*72.4*			*12-100*	*%REC*	1	7/3/2015 02:06
Surr: 4-Terphenyl-d14	*115*			*25-137*	*%REC*	1	7/3/2015 02:06
Surr: Nitrobenzene-d5	*69.1*			*37-107*	*%REC*	1	7/3/2015 02:06
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**4.8**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-005
Collection Date: 6/30/2015 10:45 AM

Work Order: 1507084
Lab ID: 1507084-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**19**		**0.26**	**1.7**	**mg/Kg-dry**	4	7/2/2015 22:27
Lead	**21**		**0.040**	**1.7**	**mg/Kg-dry**	4	7/2/2015 22:27
Manganese	**190**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/2/2015 22:27
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	U		24	68	µg/Kg-dry	10	7/3/2015 02:31
Acenaphthene	**98**		**25**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Acenaphthylene	**88**		**21**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Anthracene	**370**		**33**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Benzo(a)anthracene	**1,200**		**41**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Benzo(a)pyrene	**1,000**		**14**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Benzo(b)fluoranthene	**1,600**		**23**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Benzo(g,h,i)perylene	**700**		**29**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Benzo(k)fluoranthene	**570**		**42**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Chrysene	**1,200**		**57**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Dibenzo(a,h)anthracene	U		22	68	µg/Kg-dry	10	7/3/2015 02:31
Fluoranthene	**3,100**		**41**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Fluorene	**95**		**38**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Indeno(1,2,3-cd)pyrene	**750**		**42**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Naphthalene	U		18	68	µg/Kg-dry	10	7/3/2015 02:31
Phenanthrene	**1,400**		**37**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Pyrene	**1,700**		**51**	**68**	**µg/Kg-dry**	10	7/3/2015 02:31
Surr: 2-Fluorobiphenyl	*70.8*			*12-100*	*%REC*	10	7/3/2015 02:31
Surr: 4-Terphenyl-d14	*74.4*			*25-137*	*%REC*	10	7/3/2015 02:31
Surr: Nitrobenzene-d5	*76.6*			*37-107*	*%REC*	10	7/3/2015 02:31
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**18**		**0.26**	**0.51**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**0.75**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**2.7**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-006
Collection Date: 6/30/2015 10:50 AM

Work Order: 1507084
Lab ID: 1507084-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**12**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/2/2015 22:33
Lead	**11**		**0.034**	**1.4**	**mg/Kg-dry**	4	7/2/2015 22:33
Manganese	**110**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/2/2015 22:33
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**33**		**2.5**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Acenaphthene	**45**		**2.6**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Acenaphthylene	**14**		**2.2**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Anthracene	**160**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Benzo(a)anthracene	**670**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Benzo(a)pyrene	**560**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Benzo(b)fluoranthene	**850**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Benzo(g,h,i)perylene	**310**		**3.1**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Benzo(k)fluoranthene	**270**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Chrysene	**670**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Dibenzo(a,h)anthracene	**92**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Fluoranthene	**1,100**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Fluorene	**47**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Indeno(1,2,3-cd)pyrene	**330**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Naphthalene	**16**		**1.8**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Phenanthrene	**600**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Pyrene	**930**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/3/2015 02:55
Surr: 2-Fluorobiphenyl	*59.1*			*12-100*	*%REC*	1	7/3/2015 02:55
Surr: 4-Terphenyl-d14	*82.5*			*25-137*	*%REC*	1	7/3/2015 02:55
Surr: Nitrobenzene-d5	*62.2*			*37-107*	*%REC*	1	7/3/2015 02:55
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**11**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**0.64**	J	**0.14**	**2.2**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.2**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-007
Collection Date: 6/30/2015 10:55 AM

Work Order: 1507084
Lab ID: 1507084-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**3,900**		**28**	**180**	**mg/Kg-dry**	400	7/6/2015 13:43
Lead	**2,400**		**4.3**	**180**	**mg/Kg-dry**	400	7/6/2015 13:43
Manganese	**12,000**		**29**	**180**	**mg/Kg-dry**	400	7/6/2015 13:43
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**11**		**2.6**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Acenaphthene	U		2.7	7.3	µg/Kg-dry	1	7/3/2015 03:20
Acenaphthylene	U		2.2	7.3	µg/Kg-dry	1	7/3/2015 03:20
Anthracene	**25**		**3.5**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Benzo(a)anthracene	**520**		**4.4**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Benzo(a)pyrene	**480**		**1.5**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Benzo(b)fluoranthene	**1,600**		**2.5**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Benzo(g,h,i)perylene	**800**		**3.2**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Benzo(k)fluoranthene	**500**		**4.6**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Chrysene	**1,000**		**6.2**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Dibenzo(a,h)anthracene	**270**		**2.4**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Fluoranthene	**800**		**4.5**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Fluorene	U		4.1	7.3	µg/Kg-dry	1	7/3/2015 03:20
Indeno(1,2,3-cd)pyrene	**800**		**4.6**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Naphthalene	**27**		**1.9**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Phenanthrene	**480**		**4.1**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Pyrene	**530**		**5.5**	**7.3**	**µg/Kg-dry**	1	7/3/2015 03:20
Surr: 2-Fluorobiphenyl	*77.1*			*12-100*	*%REC*	1	7/3/2015 03:20
Surr: 4-Terphenyl-d14	*109*			*25-137*	*%REC*	1	7/3/2015 03:20
Surr: Nitrobenzene-d5	*78.3*			*37-107*	*%REC*	1	7/3/2015 03:20
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**3,900**		**0.28**	**0.56**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**6.5**		**0.14**	**2.2**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-008
Collection Date: 6/30/2015 11:00 AM

Work Order: 1507084
Lab ID: 1507084-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**9.7**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/6/2015 13:49
Lead	**13**		**0.038**	**1.6**	**mg/Kg-dry**	4	7/6/2015 13:49
Manganese	**29**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/6/2015 13:49
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**34**		**3.9**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Acenaphthene	U		4.2	11	µg/Kg-dry	1	7/3/2015 03:46
Acenaphthylene	U		3.4	11	µg/Kg-dry	1	7/3/2015 03:46
Anthracene	**12**		**5.4**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Benzo(a)anthracene	**32**		**6.8**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Benzo(a)pyrene	**25**		**2.4**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Benzo(b)fluoranthene	**60**		**3.8**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Benzo(g,h,i)perylene	**42**		**4.9**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Benzo(k)fluoranthene	**15**		**7.0**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Chrysene	**46**		**9.4**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Dibenzo(a,h)anthracene	U		3.6	11	µg/Kg-dry	1	7/3/2015 03:46
Fluoranthene	**40**		**6.8**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Fluorene	U		6.2	11	µg/Kg-dry	1	7/3/2015 03:46
Indeno(1,2,3-cd)pyrene	**22**		**7.0**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Naphthalene	U		2.9	11	µg/Kg-dry	1	7/3/2015 03:46
Phenanthrene	**95**		**6.2**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Pyrene	**48**		**8.4**	**11**	**µg/Kg-dry**	1	7/3/2015 03:46
Surr: 2-Fluorobiphenyl	*60.3*			*12-100*	*%REC*	1	7/3/2015 03:46
Surr: 4-Terphenyl-d14	*110*			*25-137*	*%REC*	1	7/3/2015 03:46
Surr: Nitrobenzene-d5	*60.4*			*37-107*	*%REC*	1	7/3/2015 03:46
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**9.7**		**0.28**	**0.56**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	U		0.14	2.2	mg/Kg-dry	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-009
Collection Date: 6/30/2015 11:05 AM

Work Order: 1507084
Lab ID: 1507084-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**12**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/2/2015 23:09
Lead	**56**		**0.040**	**1.7**	**mg/Kg-dry**	4	7/2/2015 23:09
Manganese	**110**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/2/2015 23:09
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**370**		**26**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Acenaphthene	**600**		**27**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Acenaphthylene	U		22	73	µg/Kg-dry	10	7/3/2015 04:11
Anthracene	**1,900**		**35**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Benzo(a)anthracene	**4,800**		**44**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Benzo(a)pyrene	**3,800**		**15**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Benzo(b)fluoranthene	**5,500**		**25**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Benzo(g,h,i)perylene	**1,900**		**32**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Benzo(k)fluoranthene	**1,900**		**46**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Chrysene	**5,100**		**61**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Dibenzo(a,h)anthracene	**550**		**24**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Fluoranthene	**10,000**		**45**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Fluorene	**880**		**40**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Indeno(1,2,3-cd)pyrene	**2,400**		**45**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Naphthalene	**150**		**19**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Phenanthrene	**8,900**		**40**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Pyrene	**7,400**		**55**	**73**	**µg/Kg-dry**	10	7/3/2015 04:11
Surr: 2-Fluorobiphenyl	*73.8*			*12-100*	*%REC*	10	7/3/2015 04:11
Surr: 4-Terphenyl-d14	*100*			*25-137*	*%REC*	10	7/3/2015 04:11
Surr: Nitrobenzene-d5	*72.0*			*37-107*	*%REC*	10	7/3/2015 04:11
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**11**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**0.67**	J	**0.12**	**1.9**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**9.2**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-010
Collection Date: 6/30/2015 11:10 AM

Work Order: 1507084
Lab ID: 1507084-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**1,600**		**2.6**	**16**	**mg/Kg-dry**	40	7/6/2015 13:55
Lead	**710**		**0.39**	**16**	**mg/Kg-dry**	40	7/6/2015 13:55
Manganese	**2,300**		**2.7**	**16**	**mg/Kg-dry**	40	7/6/2015 13:55
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**83**		**24**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Acenaphthene	**56**	J	**26**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Acenaphthylene	**45**	J	**21**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Anthracene	**280**		**34**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Benzo(a)anthracene	**1,400**		**42**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Benzo(a)pyrene	**1,000**		**15**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Benzo(b)fluoranthene	**3,000**		**24**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Benzo(g,h,i)perylene	**1,500**		**30**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Benzo(k)fluoranthene	**780**		**43**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Chrysene	**2,400**		**59**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Dibenzo(a,h)anthracene	**300**		**23**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Fluoranthene	**3,500**		**43**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Fluorene	**66**	J	**39**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Indeno(1,2,3-cd)pyrene	**1,300**		**43**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Naphthalene	U		18	70	µg/Kg-dry	10	7/3/2015 04:36
Phenanthrene	**1,700**		**39**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Pyrene	**2,100**		**53**	**70**	**µg/Kg-dry**	10	7/3/2015 04:36
Surr: 2-Fluorobiphenyl	*72.8*			*12-100*	*%REC*	10	7/3/2015 04:36
Surr: 4-Terphenyl-d14	*92.2*			*25-137*	*%REC*	10	7/3/2015 04:36
Surr: Nitrobenzene-d5	*69.0*			*37-107*	*%REC*	10	7/3/2015 04:36
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**1,600**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**1.4**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.7**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-011
Collection Date: 6/30/2015 11:15 AM

Work Order: 1507084
Lab ID: 1507084-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**1,700**		**2.6**	**16**	**mg/Kg-dry**	40	7/6/2015 14:02
Lead	**1,900**		**0.39**	**16**	**mg/Kg-dry**	40	7/6/2015 14:02
Manganese	**2,600**		**2.6**	**16**	**mg/Kg-dry**	40	7/6/2015 14:02
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**110**		**25**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Acenaphthene	U		26	71	µg/Kg-dry	10	7/3/2015 05:01
Acenaphthylene	U		22	71	µg/Kg-dry	10	7/3/2015 05:01
Anthracene	**260**		**34**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Benzo(a)anthracene	**1,300**		**43**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Benzo(a)pyrene	**980**		**15**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Benzo(b)fluoranthene	**3,400**		**24**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Benzo(g,h,i)perylene	**2,200**		**31**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Benzo(k)fluoranthene	**950**		**44**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Chrysene	**2,400**		**59**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Dibenzo(a,h)anthracene	**420**		**23**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Fluoranthene	**3,400**		**43**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Fluorene	U		39	71	µg/Kg-dry	10	7/3/2015 05:01
Indeno(1,2,3-cd)pyrene	**1,800**		**44**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Naphthalene	**140**		**18**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Phenanthrene	**2,000**		**39**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Pyrene	**2,200**		**53**	**71**	**µg/Kg-dry**	10	7/3/2015 05:01
Surr: 2-Fluorobiphenyl	*66.6*			*12-100*	*%REC*	10	7/3/2015 05:01
Surr: 4-Terphenyl-d14	*83.0*			*25-137*	*%REC*	10	7/3/2015 05:01
Surr: Nitrobenzene-d5	*57.6*			*37-107*	*%REC*	10	7/3/2015 05:01
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**1,700**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**0.86**	J	**0.13**	**2.0**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.7**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *06-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-063015-EB-012
Collection Date: 6/30/2015 11:20 AM

Work Order: 1507084
Lab ID: 1507084-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/2/15		Analyst: **ML**
Chromium	**54**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/6/2015 14:08
Lead	**43**		**0.034**	**1.4**	**mg/Kg-dry**	4	7/6/2015 14:08
Manganese	**190**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/6/2015 14:08
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/2/15		Analyst: **RS**
2-Methylnaphthalene	**88**		**2.5**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Acenaphthene	**230**		**2.6**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Acenaphthylene	**23**		**2.2**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Anthracene	**750**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Benzo(a)anthracene	**2,500**		**42**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Benzo(a)pyrene	**2,200**		**15**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Benzo(b)fluoranthene	**3,300**		**24**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Benzo(g,h,i)perylene	**1,200**		**3.1**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Benzo(k)fluoranthene	**1,200**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Chrysene	**2,900**		**59**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Dibenzo(a,h)anthracene	**320**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Fluoranthene	**4,500**		**43**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Fluorene	**380**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Indeno(1,2,3-cd)pyrene	**1,400**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Naphthalene	**120**		**1.8**	**7.0**	**µg/Kg-dry**	1	7/2/2015 23:12
Phenanthrene	**3,500**		**39**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Pyrene	**3,100**		**53**	**70**	**µg/Kg-dry**	10	7/4/2015 12:05
Surr: 2-Fluorobiphenyl	*71.4*			*12-100*	*%REC*	1	7/2/2015 23:12
Surr: 4-Terphenyl-d14	*103*			*25-137*	*%REC*	1	7/2/2015 23:12
Surr: Nitrobenzene-d5	*68.3*			*37-107*	*%REC*	1	7/2/2015 23:12
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**53**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/6/2015 16:10
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/2/15		Analyst: **EE**
Chromium, Hexavalent	**0.98**	J	**0.13**	**2.0**	**mg/Kg-dry**	1	7/6/2015 13:15
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**7.6**		**0.025**	**0.050**	**% of sample**	1	7/2/2015 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73021** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73021-73021** Units: **mg/Kg** Analysis Date: **7/2/2015 09:19 PM**

Client ID: Run ID: **ICPMS1_150702A** SeqNo: **3355266** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	U	0.25								
Lead	U	0.25								

MBLK Sample ID: **MBLK-73021-73021** Units: **mg/Kg** Analysis Date: **7/6/2015 02:19 PM**

Client ID: Run ID: **ICPMS2_150706A** SeqNo: **3356211** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	U	0.25								

LCS Sample ID: **LCS-73021-73021** Units: **mg/Kg** Analysis Date: **7/2/2015 09:25 PM**

Client ID: Run ID: **ICPMS1_150702A** SeqNo: **3355268** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	4.766	0.25	5	0	95.3	80-120	0			
Lead	4.75	0.25	5	0	95	80-120	0			
Manganese	4.858	0.25	5	0	97.2	80-120	0			

MS Sample ID: **1507084-12AMS** Units: **mg/Kg** Analysis Date: **7/6/2015 02:14 PM**

Client ID: **SO-017360-063015-EB-012** Run ID: **ICPMS1_150706A** SeqNo: **3356282** Prep Date: **7/2/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	146.3	1.3	6.485	49.57	1490	75-125	0			SO
Lead	44.51	1.3	6.485	39.59	76	75-125	0			O
Manganese	375.4	1.3	6.485	177.3	3050	75-125	0			SO

MSD Sample ID: **1507084-12AMSD** Units: **mg/Kg** Analysis Date: **7/6/2015 02:20 PM**

Client ID: **SO-017360-063015-EB-012** Run ID: **ICPMS1_150706A** SeqNo: **3356283** Prep Date: **7/2/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	39.38	1.3	6.443	49.57	-158	75-125	146.3	115	25	SRO
Lead	40.28	1.3	6.443	39.59	10.8	75-125	44.51	9.98	25	SO
Manganese	115.5	1.3	6.443	177.3	-958	75-125	375.4	106	25	SRO

The following samples were analyzed in this batch:

1507084-01A	1507084-05A	1507084-06A
1507084-07A	1507084-08A	1507084-09A
1507084-10A	1507084-11A	1507084-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73030** Instrument ID **SVMS4** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73030-73030** Units: **µg/Kg** Analysis Date: **7/2/2015 07:04 PM**
Client ID: Run ID: **SVMS4_150702A** SeqNo: **3354273** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1430*	0	*1667*	0	*85.8*	*12-100*		0		
Surr: 4-Terphenyl-d14	*1717*	0	*1667*	0	*103*	*25-137*		0		
Surr: Nitrobenzene-d5	*1490*	0	*1667*	0	*89.4*	*37-107*		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73030** Instrument ID **SVMS4** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73030-73030** Units: **µg/Kg** Analysis Date: **7/2/2015 07:29 PM**

Client ID: Run ID: **SVMS4_150702A** SeqNo: **3354274** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	555.3	6.7	666.7	0	83.3	45-105	0			
Acenaphthene	567.3	6.7	666.7	0	85.1	45-110	0			
Acenaphthylene	541	6.7	666.7	0	81.1	45-105	0			
Anthracene	607	6.7	666.7	0	91	55-105	0			
Benzo(a)anthracene	641.7	6.7	666.7	0	96.2	50-110	0			
Benzo(a)pyrene	654.3	6.7	666.7	0	98.1	50-110	0			
Benzo(b)fluoranthene	630.7	6.7	666.7	0	94.6	45-115	0			
Benzo(g,h,i)perylene	595.7	6.7	666.7	0	89.3	40-125	0			
Benzo(k)fluoranthene	660.3	6.7	666.7	0	99	45-115	0			
Chrysene	627.3	6.7	666.7	0	94.1	55-110	0			
Dibenzo(a,h)anthracene	587.7	6.7	666.7	0	88.1	40-125	0			
Fluoranthene	631	6.7	666.7	0	94.6	55-115	0			
Fluorene	560.3	6.7	666.7	0	84	50-110	0			
Indeno(1,2,3-cd)pyrene	549.7	6.7	666.7	0	82.4	40-120	0			
Naphthalene	483.3	6.7	666.7	0	72.5	40-105	0			
Phenanthrene	622.7	6.7	666.7	0	93.4	50-110	0			
Pyrene	580.7	6.7	666.7	0	87.1	45-125	0			
Surr: 2-Fluorobiphenyl	*1284*	0	*1667*	0	*77*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1692*	0	*1667*	0	*102*	*25-137*	0			
Surr: Nitrobenzene-d5	*1301*	0	*1667*	0	*78*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73030** Instrument ID **SVMS4** Method: **SW846 8270D**

MS Sample ID: **1507084-12A MS** Units: **µg/Kg** Analysis Date: **7/2/2015 10:23 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **SVMS4_150702A** SeqNo: **3354280** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1139	13	1292	81.57	81.8	45-105	0			
Acenaphthene	1014	13	1292	214.3	61.9	45-110	0			
Acenaphthylene	1033	13	1292	21.04	78.3	45-105	0			
Anthracene	1263	13	1292	692.7	44.2	55-105	0			S
Benzo(a)anthracene	1469	13	1292	2364	-69.3	50-110	0			S
Benzo(a)pyrene	1419	13	1292	2020	-46.6	50-110	0			S
Benzo(b)fluoranthene	1564	13	1292	2983	-110	45-115	0			S
Benzo(g,h,i)perylene	1133	13	1292	1123	0.737	40-125	0			S
Benzo(k)fluoranthene	1338	13	1292	1147	14.8	45-115	0			S
Chrysene	1486	13	1292	2816	-103	55-110	0			S
Dibenzo(a,h)anthracene	1023	13	1292	295.2	56.3	40-125	0			
Fluoranthene	1919	13	1292	4606	-208	55-115	0			S
Fluorene	1137	13	1292	351.5	60.8	50-110	0			
Indeno(1,2,3-cd)pyrene	1100	13	1292	1330	-17.8	40-120	0			S
Naphthalene	931.5	13	1292	113.9	63.3	40-105	0			
Phenanthrene	1566	13	1292	3691	-164	50-110	0			S
Pyrene	1451	13	1292	3259	-140	45-125	0			S
Surr: 2-Fluorobiphenyl	*2316*	0	*3230*	0	*71.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2945*	0	*3230*	0	*91.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*2398*	0	*3230*	0	*74.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507084
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73030** Instrument ID **SVMS4** Method: **SW846 8270D**

MSD Sample ID: **1507084-12A MSD** Units: **µg/Kg** Analysis Date: **7/2/2015 10:48 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **SVMS4_150702A** SeqNo: **3354281** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1726	13	1313	81.57	125	45-105	1139	41	30	SR
Acenaphthene	5127	13	1313	214.3	374	45-110	1014	134	30	SRE
Acenaphthylene	1084	13	1313	21.04	80.9	45-105	1033	4.79	30	
Anthracene	8693	13	1313	692.7	609	55-105	1263	149	30	SRE
Benzo(a)anthracene	10540	13	1313	2364	623	50-110	1469	151	30	SRE
Benzo(a)pyrene	8136	13	1313	2020	466	50-110	1419	141	30	SRE
Benzo(b)fluoranthene	11270	13	1313	2983	631	45-115	1564	151	30	SRE
Benzo(g,h,i)perylene	6139	13	1313	1123	382	40-125	1133	138	30	SRE
Benzo(k)fluoranthene	4479	13	1313	1147	254	45-115	1338	108	30	SRE
Chrysene	11250	13	1313	2816	642	55-110	1486	153	30	SRE
Dibenzo(a,h)anthracene	1691	13	1313	295.2	106	40-125	1023	49.2	30	R
Fluoranthene	19660	13	1313	4606	1150	55-115	1919	164	30	SRE
Fluorene	5885	13	1313	351.5	422	50-110	1137	135	30	SRE
Indeno(1,2,3-cd)pyrene	6235	13	1313	1330	374	40-120	1100	140	30	SRE
Naphthalene	1952	13	1313	113.9	140	40-105	931.5	70.8	30	SR
Phenanthrene	18740	13	1313	3691	1150	50-110	1566	169	30	SRE
Pyrene	14980	13	1313	3259	893	45-125	1451	165	30	SRE
Surr: 2-Fluorobiphenyl	*2358*	0	*3282*	0	*71.9*	*12-100*	2316	*1.79*	*40*	
Surr: 4-Terphenyl-d14	*2858*	0	*3282*	0	*87.1*	*25-137*	2945	*2.98*	*40*	
Surr: Nitrobenzene-d5	*2028*	0	*3282*	0	*61.8*	*37-107*	2398	*16.7*	*40*	

The following samples were analyzed in this batch:

1507084-01A	1507084-02A	1507084-03A
1507084-04A	1507084-05A	1507084-06A
1507084-07A	1507084-08A	1507084-09A
1507084-10A	1507084-11A	1507084-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507084
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73166** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73166-73166** Units: **mg/Kg** Analysis Date: **7/6/2015 01:15 PM**
Client ID: Run ID: **WETCHEM_150706F** SeqNo: **3356496** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.46	1.0								J

LCS Sample ID: **LCS-73166-73166** Units: **mg/Kg** Analysis Date: **7/6/2015 01:15 PM**
Client ID: Run ID: **WETCHEM_150706F** SeqNo: **3356497** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.3	1.0	5	0	86	80-120	0			

MS Sample ID: **1507084-12A MSI** Units: **mg/Kg** Analysis Date: **7/6/2015 01:15 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **WETCHEM_150706F** SeqNo: **3356507** Prep Date: **7/2/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1706	85	2022	0.9065	84.3	75-125	0			

MS Sample ID: **1507084-12AMS** Units: **mg/Kg** Analysis Date: **7/6/2015 01:15 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **WETCHEM_150706F** SeqNo: **3356509** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2.861	0.99	4.95	0.9065	39.5	75-125	0			S

MSD Sample ID: **1507084-12AMSD** Units: **mg/Kg** Analysis Date: **7/6/2015 01:15 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **WETCHEM_150706F** SeqNo: **3356510** Prep Date: **7/2/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.61	0.95	4.762	0.9065	56.8	75-125	2.861	23.1	20	SR

The following samples were analyzed in this batch:

1507084-01A	1507084-05A	1507084-06A
1507084-07A	1507084-08A	1507084-09A
1507084-10A	1507084-11A	1507084-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507084
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R166951** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R166951** Units: **% of sample** Analysis Date: **7/2/2015 03:15 PM**
Client ID: Run ID: **MOIST_150702D** SeqNo: **3355815** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R166951** Units: **% of sample** Analysis Date: **7/2/2015 03:15 PM**
Client ID: Run ID: **MOIST_150702D** SeqNo: **3355814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1507084-01A DUP** Units: **% of sample** Analysis Date: **7/2/2015 03:15 PM**
Client ID: **SO-017360-063015-EB-001** Run ID: **MOIST_150702D** SeqNo: **3355797** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.76	0.050	0	0	0		2.76	0	20	

DUP Sample ID: **1507084-12A DUP** Units: **% of sample** Analysis Date: **7/2/2015 03:15 PM**
Client ID: **SO-017360-063015-EB-012** Run ID: **MOIST_150702D** SeqNo: **3355809** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.73	0.050	0	0	0		7.56	14.4	20	

The following samples were analyzed in this batch:

1507084-01A	1507084-02A	1507084-03A
1507084-04A	1507084-05A	1507084-06A
1507084-07A	1507084-08A	1507084-09A
1507084-10A	1507084-11A	1507084-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

COC NO.: PL- 12072

PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

Project No./ Phase/Task Code: 017360-T11Y15-003Y15	Laboratory Name: ALS	Lab Location: Holland, MI	SSOW ID: 17360
Project Name: Former GRMP	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No:
Project Location: Wyoming, MI			Carrier: drop off
Chemistry Contact: Rawa Fleisher			Airbill No:
Sampler(s): E. Batenburg			Date Shipped:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Boil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Total Lead	Total Manganese	Dissolved Mn (0.45µm filtered)								MS/MSD Request	Comments/ Special Instructions:
1	SO-017360-063015-EB-001	6-30-15	950	SO	G									1	X	X	X	X								
2	-007		1010														X	X								
3	-003		1020														X	X								
4	-004		1030														X	X								
5	-005		1045												X	X	X	X								
6	-006		1050												X	X	X	X								
7	-007		1055												X	X	X	X								
8	-008		1100												X	X	X	X								
9	-009		1105												X	X	X	X								
10	-010		1110												X	X	X	X								
11	-011		1115												X	X	X	X								
12	-012		1120			2								2	X	X	X	X							X	MS/MSD
13																										
14																										
15																										

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Total Number of Containers: 13

All Samples In Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	7-1-15	1340	1.	ALS	7/1/15	1340
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT—ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE—Fully Executed Copy (CRA) YELLOW—Receiving Laboratory Copy PINK—Shipper GOLDENROD—Sampling Crew

CRA Form: COC-10A (20110804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **01-Jul-15 13:40**

Work Order: **1507084** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 01-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 02-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/1/2015 3:57:14 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

21-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071003**

Dear Rawa,

ALS Environmental received 1 sample on 17-Jul-2015 03:50 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 21-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071003**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071003-01	SO-017360-071715-JMD-027	Tclp Extract		7/17/2015 14:30	7/17/2015 15:50	☐

ALS Group USA, Corp

Date: 21-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071003**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *21-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-027
Collection Date: 7/17/2015 02:30 PM

Work Order: 15071003
Lab ID: 15071003-01
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS		Method: **SW6020A**			Prep: SW3005A / 7/20/15		Analyst: **ML**
Lead	**0.051**		**0.0010**	**0.050**	**mg/L**	1	7/20/2015 18:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 21-Jul-15

Client: GHD Services Inc.

QC BATCH REPORT

Work Order: 15071003

Project: Former GRMP (17360)

Batch ID: **73720** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73720-73720** Units: **mg/L** Analysis Date: **7/20/2015 06:09 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379086** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.0050								

LCS Sample ID: **LCS-73720-73720** Units: **mg/L** Analysis Date: **7/20/2015 06:15 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379087** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.1014	0.0050	0.1	0	101	80-120	0			

MS Sample ID: **1507871-20BMS** Units: **mg/L** Analysis Date: **7/20/2015 06:58 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379094** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.1037	0.0050	0.1	0.001087	103	75-125	0			

MSD Sample ID: **1507871-20BMSD** Units: **mg/L** Analysis Date: **7/20/2015 07:04 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379095** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.1046	0.0050	0.1	0.001087	104	75-125	0.1037	0.864	20	

The following samples were analyzed in this batch: 15071003-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

ALS Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 17768

ALS Project Manager: Chad Whelton ALS Work Order #: 1507003

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRMP - RACER	A	TCLP Lead
Work Order		Project Number	017360	B	
Company Name	GHD	Bill To Company	GHD	C	
Send Report To	Rana Fleisher	Invoice Attn	Rana Fleisher	D	
Address	Plymouth, MI	Address		E	
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address	rana.fleisher@ghd.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-017360-071715-JMD-01	7/17/15	1430	SO	—	1	X										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Jodie Dombrowski Jodie Dombrowski

Shipment Method: delivered to lab

Required Turnaround Time: (Check Box) ☑ Other Rodeo ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Jodie Dombrowski Date: 7/17/15 Time: 1650 Received by:

Relinquished by: Date: 7/17/15 Time: 1550 1650 Received by (Laboratory):

Logged by (Laboratory): DES Date: 7/17/15 Time: 1600 Received by (Laboratory): 7/17/15

Notes:

Cooler ID	Cooler Temp
	3.4°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.

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Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **17-Jul-15 15:50**

Work Order: **15071003** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 17-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 17-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/17/2015 4:04:50 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

22-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071004**

Dear Rawa,

ALS Environmental received 8 samples on 17-Jul-2015 03:40 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071004**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071004-01	SO-017360-071715-JMD-019	Soil		7/17/2015 13:20	7/17/2015 15:40	☐
15071004-02	SO-017360-071715-JMD-020	Soil		7/17/2015 13:15	7/17/2015 15:40	☐
15071004-03	SO-017360-071715-JMD-021	Soil		7/17/2015 13:25	7/17/2015 15:40	☐
15071004-04	SO-017360-071715-JMD-022	Soil		7/17/2015 13:27	7/17/2015 15:40	☐
15071004-05	SO-017360-071715-JMD-023	Soil		7/17/2015 13:34	7/17/2015 15:40	☐
15071004-06	SO-017360-071715-JMD-024	Soil		7/17/2015 13:38	7/17/2015 15:40	☐
15071004-07	SO-017360-071715-JMD-025	Soil		7/17/2015 13:40	7/17/2015 15:40	☐
15071004-08	SO-017360-071715-JMD-026	Soil		7/17/2015 13:50	7/17/2015 15:40	☐

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 15071004

Case Narrative

Batch 73731, Method ICP_6020_S, Samples 15071004-01A through -06A: The metals reporting limits are elevated due to dilution for high concentrations of non-target analytes.

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071004**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-019
Collection Date: 7/17/2015 01:20 PM

Work Order: 15071004
Lab ID: 15071004-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**1.6**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/20/2015 23:48
Chromium	**4.7**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/20/2015 23:48
Lead	**7.6**		**0.034**	**1.4**	**mg/Kg-dry**	4	7/20/2015 23:48
Manganese	**88**		**0.24**	**1.4**	**mg/Kg-dry**	4	7/20/2015 23:48
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RM**
2-Methylnaphthalene	U		2.4	7.0	µg/Kg-dry	1	7/20/2015 21:26
Acenaphthene	U		2.6	7.0	µg/Kg-dry	1	7/20/2015 21:26
Acenaphthylene	U		2.1	7.0	µg/Kg-dry	1	7/20/2015 21:26
Anthracene	U		3.4	7.0	µg/Kg-dry	1	7/20/2015 21:26
Benzo(a)anthracene	**16**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Benzo(a)pyrene	**15**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Benzo(b)fluoranthene	**21**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Benzo(g,h,i)perylene	**13**		**3.0**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Benzo(k)fluoranthene	**11**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Chrysene	**11**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Dibenzo(a,h)anthracene	**4.9**	J	**2.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Fluoranthene	**18**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Fluorene	U		3.9	7.0	µg/Kg-dry	1	7/20/2015 21:26
Indeno(1,2,3-cd)pyrene	**15**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Naphthalene	U		1.8	7.0	µg/Kg-dry	1	7/20/2015 21:26
Phenanthrene	**13**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Pyrene	**20**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 21:26
Surr: 2-Fluorobiphenyl	*65.8*			*12-100*	*%REC*	1	7/20/2015 21:26
Surr: 4-Terphenyl-d14	*93.2*			*25-137*	*%REC*	1	7/20/2015 21:26
Surr: Nitrobenzene-d5	*57.7*			*37-107*	*%REC*	1	7/20/2015 21:26
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**4.5**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**0.19**	J	**0.13**	**2.0**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.6**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-020
Collection Date: 7/17/2015 01:15 PM

Work Order: 15071004
Lab ID: 15071004-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**4.8**		**0.28**	**1.8**	**mg/Kg-dry**	4	7/20/2015 23:54
Chromium	**7.8**		**0.29**	**1.8**	**mg/Kg-dry**	4	7/20/2015 23:54
Lead	**23**		**0.044**	**1.8**	**mg/Kg-dry**	4	7/20/2015 23:54
Manganese	**90**		**0.30**	**1.8**	**mg/Kg-dry**	4	7/20/2015 23:54
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	**130**		**2.7**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Acenaphthene	U		2.9	7.8	µg/Kg-dry	1	7/20/2015 23:25
Acenaphthylene	**15**		**2.4**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Anthracene	U		3.8	7.8	µg/Kg-dry	1	7/20/2015 23:25
Benzo(a)anthracene	**35**		**4.7**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Benzo(a)pyrene	**41**		**1.6**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Benzo(b)fluoranthene	**86**		**2.7**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Benzo(g,h,i)perylene	**36**		**3.4**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Benzo(k)fluoranthene	**26**		**4.9**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Chrysene	**46**		**6.6**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Dibenzo(a,h)anthracene	U		2.5	7.8	µg/Kg-dry	1	7/20/2015 23:25
Fluoranthene	**90**		**4.8**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Fluorene	U		4.3	7.8	µg/Kg-dry	1	7/20/2015 23:25
Indeno(1,2,3-cd)pyrene	**38**		**4.9**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Naphthalene	**86**		**2.0**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Phenanthrene	**100**		**4.3**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Pyrene	**64**		**5.9**	**7.8**	**µg/Kg-dry**	1	7/20/2015 23:25
Surr: 2-Fluorobiphenyl	*70.0*			*12-100*	*%REC*	1	7/20/2015 23:25
Surr: 4-Terphenyl-d14	*78.6*			*25-137*	*%REC*	1	7/20/2015 23:25
Surr: Nitrobenzene-d5	*52.7*			*37-107*	*%REC*	1	7/20/2015 23:25
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**7.2**		**0.30**	**0.59**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**0.67**	J	**0.14**	**2.3**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**15**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-021
Collection Date: 7/17/2015 01:25 PM

Work Order: 15071004
Lab ID: 15071004-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**1.8**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/21/2015
Chromium	**12**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/21/2015
Lead	**14**		**0.039**	**1.6**	**mg/Kg-dry**	4	7/21/2015
Manganese	**170**		**0.27**	**1.6**	**mg/Kg-dry**	4	7/21/2015
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	**25**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Acenaphthene	**15**		**2.6**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Acenaphthylene	**79**		**2.1**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Anthracene	**81**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Benzo(a)anthracene	**210**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Benzo(a)pyrene	**180**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Benzo(b)fluoranthene	**310**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Benzo(g,h,i)perylene	**110**		**3.0**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Benzo(k)fluoranthene	**95**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Chrysene	**230**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Dibenzo(a,h)anthracene	**44**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Fluoranthene	**410**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Fluorene	**31**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Indeno(1,2,3-cd)pyrene	**140**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Naphthalene	**15**		**1.8**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Phenanthrene	**230**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Pyrene	**230**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/20/2015 23:46
Surr: 2-Fluorobiphenyl	*72.7*			*12-100*	*%REC*	1	7/20/2015 23:46
Surr: 4-Terphenyl-d14	*75.2*			*25-137*	*%REC*	1	7/20/2015 23:46
Surr: Nitrobenzene-d5	*58.4*			*37-107*	*%REC*	1	7/20/2015 23:46
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**12**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	U		0.13	2.1	mg/Kg-dry	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.8**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-022
Collection Date: 7/17/2015 01:27 PM

Work Order: 15071004
Lab ID: 15071004-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**1.3**	J	**0.23**	**1.5**	**mg/Kg-dry**	4	7/21/2015 00:06
Chromium	**4.8**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/21/2015 00:06
Lead	**5.6**		**0.036**	**1.5**	**mg/Kg-dry**	4	7/21/2015 00:06
Manganese	**140**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/21/2015 00:06
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/21/15		Analyst: **RS**
2-Methylnaphthalene	**19**		**2.5**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Acenaphthene	U		2.6	7.0	µg/Kg-dry	1	7/21/2015 20:38
Acenaphthylene	**16**		**2.2**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Anthracene	**9.1**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Benzo(a)anthracene	**31**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Benzo(a)pyrene	**43**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Benzo(b)fluoranthene	**68**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Benzo(g,h,i)perylene	**37**		**3.1**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Benzo(k)fluoranthene	**31**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Chrysene	**45**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Dibenzo(a,h)anthracene	U		2.3	7.0	µg/Kg-dry	1	7/21/2015 20:38
Fluoranthene	**61**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Fluorene	U		3.9	7.0	µg/Kg-dry	1	7/21/2015 20:38
Indeno(1,2,3-cd)pyrene	**47**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Naphthalene	U		1.8	7.0	µg/Kg-dry	1	7/21/2015 20:38
Phenanthrene	**22**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Pyrene	**39**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/21/2015 20:38
Surr: 2-Fluorobiphenyl	*88.8*			*12-100*	*%REC*	1	7/21/2015 20:38
Surr: 4-Terphenyl-d14	*95.5*			*25-137*	*%REC*	1	7/21/2015 20:38
Surr: Nitrobenzene-d5	*91.1*			*37-107*	*%REC*	1	7/21/2015 20:38
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**4.0**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**0.87**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.4**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-023
Collection Date: 7/17/2015 01:34 PM

Work Order: 15071004
Lab ID: 15071004-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**4.0**		**0.26**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:32
Chromium	**12**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:32
Lead	**66**		**0.040**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:32
Manganese	**160**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:32
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	**340**		**25**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Acenaphthene	**560**		**27**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Acenaphthylene	**420**		**22**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Anthracene	**1,700**		**35**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Benzo(a)anthracene	**4,000**		**44**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Benzo(a)pyrene	**3,700**		**15**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Benzo(b)fluoranthene	**4,900**		**25**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Benzo(g,h,i)perylene	**2,000**		**31**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Benzo(k)fluoranthene	**1,800**		**45**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Chrysene	**3,800**		**61**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Dibenzo(a,h)anthracene	**670**		**23**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Fluoranthene	**9,400**		**44**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Fluorene	**670**		**40**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Indeno(1,2,3-cd)pyrene	**2,600**		**45**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Naphthalene	**300**		**19**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Phenanthrene	**4,400**		**40**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Pyrene	**4,300**		**55**	**72**	**µg/Kg-dry**	10	7/21/2015 12:28
Surr: 2-Fluorobiphenyl	*62.2*			*12-100*	*%REC*	10	7/21/2015 12:28
Surr: 4-Terphenyl-d14	*56.0*			*25-137*	*%REC*	10	7/21/2015 12:28
Surr: Nitrobenzene-d5	*62.8*			*37-107*	*%REC*	10	7/21/2015 12:28
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**12**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**0.20**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**9.0**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-024
Collection Date: 7/17/2015 01:38 PM

Work Order: 15071004
Lab ID: 15071004-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**2.7**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/21/2015 00:38
Chromium	**110**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/21/2015 00:38
Lead	**69**		**0.034**	**1.4**	**mg/Kg-dry**	4	7/21/2015 00:38
Manganese	**340**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/21/2015 00:38
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	**17**		**2.4**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Acenaphthene	U		2.6	6.8	µg/Kg-dry	1	7/21/2015 12:49
Acenaphthylene	**24**		**2.1**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Anthracene	**44**		**3.3**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Benzo(a)anthracene	**220**		**4.1**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Benzo(a)pyrene	**270**		**1.4**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Benzo(b)fluoranthene	**490**		**2.3**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Benzo(g,h,i)perylene	**270**		**3.0**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Benzo(k)fluoranthene	**130**		**4.3**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Chrysene	**290**		**5.8**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Dibenzo(a,h)anthracene	**82**		**2.2**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Fluoranthene	**520**		**4.2**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Fluorene	U		3.8	6.8	µg/Kg-dry	1	7/21/2015 12:49
Indeno(1,2,3-cd)pyrene	**280**		**4.3**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Naphthalene	**16**		**1.8**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Phenanthrene	**180**		**3.8**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Pyrene	**260**		**5.2**	**6.8**	**µg/Kg-dry**	1	7/21/2015 12:49
Surr: 2-Fluorobiphenyl	*60.8*			*12-100*	*%REC*	1	7/21/2015 12:49
Surr: 4-Terphenyl-d14	*63.9*			*25-137*	*%REC*	1	7/21/2015 12:49
Surr: Nitrobenzene-d5	*47.6*			*37-107*	*%REC*	1	7/21/2015 12:49
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**110**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**2.5**		**0.13**	**2.0**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.4**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-025
Collection Date: 7/17/2015 01:40 PM

Work Order: 15071004
Lab ID: 15071004-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**1.5**	J	**0.27**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:44
Chromium	**6.4**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:44
Lead	**4.6**		**0.041**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:44
Manganese	**32**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/21/2015 00:44
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	U		2.5	7.1	µg/Kg-dry	1	7/21/2015 01:09
Acenaphthene	U		2.7	7.1	µg/Kg-dry	1	7/21/2015 01:09
Acenaphthylene	U		2.2	7.1	µg/Kg-dry	1	7/21/2015 01:09
Anthracene	U		3.5	7.1	µg/Kg-dry	1	7/21/2015 01:09
Benzo(a)anthracene	U		4.3	7.1	µg/Kg-dry	1	7/21/2015 01:09
Benzo(a)pyrene	U		1.5	7.1	µg/Kg-dry	1	7/21/2015 01:09
Benzo(b)fluoranthene	U		2.4	7.1	µg/Kg-dry	1	7/21/2015 01:09
Benzo(g,h,i)perylene	U		3.1	7.1	µg/Kg-dry	1	7/21/2015 01:09
Benzo(k)fluoranthene	U		4.5	7.1	µg/Kg-dry	1	7/21/2015 01:09
Chrysene	U		6.0	7.1	µg/Kg-dry	1	7/21/2015 01:09
Dibenzo(a,h)anthracene	U		2.3	7.1	µg/Kg-dry	1	7/21/2015 01:09
Fluoranthene	**12**		**4.4**	**7.1**	**µg/Kg-dry**	1	7/21/2015 01:09
Fluorene	U		4.0	7.1	µg/Kg-dry	1	7/21/2015 01:09
Indeno(1,2,3-cd)pyrene	U		4.4	7.1	µg/Kg-dry	1	7/21/2015 01:09
Naphthalene	U		1.8	7.1	µg/Kg-dry	1	7/21/2015 01:09
Phenanthrene	U		4.0	7.1	µg/Kg-dry	1	7/21/2015 01:09
Pyrene	**5.7**	J	**5.4**	**7.1**	**µg/Kg-dry**	1	7/21/2015 01:09
Surr: 2-Fluorobiphenyl	*73.9*			*12-100*	*%REC*	1	7/21/2015 01:09
Surr: 4-Terphenyl-d14	*68.1*			*25-137*	*%REC*	1	7/21/2015 01:09
Surr: Nitrobenzene-d5	*61.1*			*37-107*	*%REC*	1	7/21/2015 01:09
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**6.1**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**0.35**	J	**0.14**	**2.2**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**8.8**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071715-JMD-026
Collection Date: 7/17/2015 01:50 PM

Work Order: 15071004
Lab ID: 15071004-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/20/15		Analyst: **ML**
Arsenic	**1.5**	J	**0.25**	**1.6**	**mg/Kg-dry**	4	7/21/2015 00:51
Chromium	**25**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/21/2015 00:51
Lead	**7.5**		**0.039**	**1.6**	**mg/Kg-dry**	4	7/21/2015 00:51
Manganese	**50**		**0.27**	**1.6**	**mg/Kg-dry**	4	7/21/2015 00:51
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/20/15		Analyst: **RS**
2-Methylnaphthalene	**20**		**2.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Acenaphthene	**6.3**	J	**2.8**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Acenaphthylene	**16**		**2.3**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Anthracene	**27**		**3.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Benzo(a)anthracene	**89**		**4.5**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Benzo(a)pyrene	**98**		**1.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Benzo(b)fluoranthene	**150**		**2.5**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Benzo(g,h,i)perylene	**62**		**3.2**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Benzo(k)fluoranthene	**46**		**4.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Chrysene	**95**		**6.2**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Dibenzo(a,h)anthracene	**18**		**2.4**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Fluoranthene	**200**		**4.5**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Fluorene	U		4.1	7.4	µg/Kg-dry	1	7/21/2015 01:30
Indeno(1,2,3-cd)pyrene	**76**		**4.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Naphthalene	**13**		**1.9**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Phenanthrene	**90**		**4.1**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Pyrene	**110**		**5.6**	**7.4**	**µg/Kg-dry**	1	7/21/2015 01:30
Surr: 2-Fluorobiphenyl	*70.6*			*12-100*	*%REC*	1	7/21/2015 01:30
Surr: 4-Terphenyl-d14	*68.5*			*25-137*	*%REC*	1	7/21/2015 01:30
Surr: Nitrobenzene-d5	*60.5*			*37-107*	*%REC*	1	7/21/2015 01:30
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JJG**
Chromium, Trivalent	**24**		**0.29**	**0.56**	**mg/Kg-dry**	1	7/22/2015 09:24
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/19/15		Analyst: **MB**
Chromium, Hexavalent	**1.0**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/21/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/17/2015 17:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73731** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73731-73731** Units: **mg/Kg** Analysis Date: **7/20/2015 11:36 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379145** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73731-73731** Units: **mg/Kg** Analysis Date: **7/20/2015 11:42 PM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379146** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.49	0.25	5	0	89.8	80-120	0			
Chromium	4.936	0.25	5	0	98.7	80-120	0			
Lead	5	0.25	5	0	100	80-120	0			
Manganese	5.065	0.25	5	0	101	80-120	0			

MS Sample ID: **1507940-04AMS** Units: **mg/Kg** Analysis Date: **7/21/2015 03:50 AM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379192** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.391	0.37	7.396	1.187	83.9	75-125	0			
Chromium	11.86	0.37	7.396	4.144	104	75-125	0			
Lead	9.749	0.37	7.396	2.368	99.8	75-125	0			
Manganese	81.88	0.37	7.396	75.22	90	75-125	0			O

MSD Sample ID: **1507940-04AMSD** Units: **mg/Kg** Analysis Date: **7/21/2015 03:57 AM**

Client ID: Run ID: **ICPMS1_150720A** SeqNo: **3379195** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.279	0.37	7.353	1.187	82.9	75-125	7.391	1.53	25	
Chromium	11.43	0.37	7.353	4.144	99.1	75-125	11.86	3.63	25	
Lead	9.522	0.37	7.353	2.368	97.3	75-125	9.749	2.35	25	
Manganese	89.49	0.37	7.353	75.22	194	75-125	81.88	8.88	25	SO

The following samples were analyzed in this batch:

15071004-01A	15071004-02A	15071004-03A
15071004-04A	15071004-05A	15071004-06A
15071004-07A	15071004-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73710** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73710-73710** Units: **µg/Kg** Analysis Date: **7/20/2015 05:57 PM**
Client ID: Run ID: **SVMS8_150720A** SeqNo: **3379986** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1299*	0	*1667*	0	*77.9*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1465*	0	*1667*	0	*87.9*	*25-137*	0			
Surr: Nitrobenzene-d5	*1216*	0	*1667*	0	*72.9*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071004
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73710** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73710-73710** Units: **µg/Kg** Analysis Date: **7/20/2015 06:17 PM**
Client ID: Run ID: **SVMS8_150720A** SeqNo: **3379987** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	568.7	6.7	666.7	0	85.3	45-105	0			
Acenaphthene	555.3	6.7	666.7	0	83.3	45-110	0			
Acenaphthylene	579.7	6.7	666.7	0	86.9	45-105	0			
Anthracene	629	6.7	666.7	0	94.3	55-105	0			
Benzo(a)anthracene	604	6.7	666.7	0	90.6	50-110	0			
Benzo(a)pyrene	608.7	6.7	666.7	0	91.3	50-110	0			
Benzo(b)fluoranthene	614.3	6.7	666.7	0	92.1	45-115	0			
Benzo(g,h,i)perylene	612	6.7	666.7	0	91.8	40-125	0			
Benzo(k)fluoranthene	607	6.7	666.7	0	91	45-115	0			
Chrysene	580.7	6.7	666.7	0	87.1	55-110	0			
Dibenzo(a,h)anthracene	568.7	6.7	666.7	0	85.3	40-125	0			
Fluoranthene	640.7	6.7	666.7	0	96.1	55-115	0			
Fluorene	581.3	6.7	666.7	0	87.2	50-110	0			
Indeno(1,2,3-cd)pyrene	606.3	6.7	666.7	0	90.9	40-120	0			
Naphthalene	413	6.7	666.7	0	61.9	40-105	0			
Phenanthrene	597.7	6.7	666.7	0	89.6	50-110	0			
Pyrene	642.7	6.7	666.7	0	96.4	45-125	0			
Surr: 2-Fluorobiphenyl	*1239*	0	*1667*	0	*74.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1384*	0	*1667*	0	*83.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*1221*	0	*1667*	0	*73.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73710** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **15071004-01A MS** Units: **µg/Kg** Analysis Date: **7/20/2015 08:46 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **SVMS8_150720A** SeqNo: **3379988** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1088	13	1282	0	84.9	45-105	0			
Acenaphthene	1129	13	1282	0	88	45-110	0			
Acenaphthylene	1142	13	1282	0	89.1	45-105	0			
Anthracene	1232	13	1282	0	96.1	55-105	0			
Benzo(a)anthracene	1220	13	1282	14.79	94	50-110	0			
Benzo(a)pyrene	1207	13	1282	14.46	93	50-110	0			
Benzo(b)fluoranthene	1252	13	1282	19.39	96.1	45-115	0			
Benzo(g,h,i)perylene	1238	13	1282	12.16	95.6	40-125	0			
Benzo(k)fluoranthene	1192	13	1282	10.19	92.2	45-115	0			
Chrysene	1154	13	1282	10.52	89.2	55-110	0			
Dibenzo(a,h)anthracene	1218	13	1282	4.6	94.6	40-125	0			
Fluoranthene	1260	13	1282	17.42	96.9	55-115	0			
Fluorene	1171	13	1282	0	91.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1220	13	1282	14.46	94.1	40-120	0			
Naphthalene	783.2	13	1282	0	61.1	40-105	0			
Phenanthrene	1184	13	1282	12.16	91.4	50-110	0			
Pyrene	1314	13	1282	19.06	101	45-125	0			
Surr: 2-Fluorobiphenyl	*2508*	0	*3205*	0	*78.3*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2857*	0	*3205*	0	*89.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*2316*	0	*3205*	0	*72.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071004
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73710** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **15071004-01A MSD** Units: **µg/Kg** Analysis Date: **7/20/2015 09:06 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **SVMS8_150720A** SeqNo: **3379989** Prep Date: **7/20/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1036	13	1256	0	82.5	45-105	1088	4.9	30	
Acenaphthene	1076	13	1256	0	85.6	45-110	1129	4.8	30	
Acenaphthylene	1112	13	1256	0	88.5	45-105	1142	2.66	30	
Anthracene	1190	13	1256	0	94.7	55-105	1232	3.5	30	
Benzo(a)anthracene	1136	13	1256	14.79	89.3	50-110	1220	7.15	30	
Benzo(a)pyrene	1132	13	1256	14.46	89	50-110	1207	6.38	30	
Benzo(b)fluoranthene	1162	13	1256	19.39	91	45-115	1252	7.45	30	
Benzo(g,h,i)perylene	1217	13	1256	12.16	95.9	40-125	1238	1.67	30	
Benzo(k)fluoranthene	1108	13	1256	10.19	87.4	45-115	1192	7.28	30	
Chrysene	1074	13	1256	10.52	84.7	55-110	1154	7.16	30	
Dibenzo(a,h)anthracene	1078	13	1256	4.6	85.4	40-125	1218	12.2	30	
Fluoranthene	1118	13	1256	17.42	87.6	55-115	1260	12	30	
Fluorene	1098	13	1256	0	87.4	50-110	1171	6.45	30	
Indeno(1,2,3-cd)pyrene	1175	13	1256	14.46	92.4	40-120	1220	3.78	30	
Naphthalene	752.3	13	1256	0	59.9	40-105	783.2	4.02	30	
Phenanthrene	1142	13	1256	12.16	89.9	50-110	1184	3.62	30	
Pyrene	1333	13	1256	19.06	105	45-125	1314	1.46	30	
Surr: 2-Fluorobiphenyl	*2486*	0	*3140*	0	*79.2*	*12-100*	2508	*0.919*	*40*	
Surr: 4-Terphenyl-d14	*2817*	0	*3140*	0	*89.7*	*25-137*	2857	*1.41*	*40*	
Surr: Nitrobenzene-d5	*2255*	0	*3140*	0	*71.8*	*37-107*	2316	*2.65*	*40*	

The following samples were analyzed in this batch:

15071004-01A	15071004-02A	15071004-03A
15071004-04A	15071004-05A	15071004-06A
15071004-07A	15071004-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:33 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381388** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1387*	0	*1667*	0	*83.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1622*	0	*1667*	0	*97.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1469*	0	*1667*	0	*88.1*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:55 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381389** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	566.7	6.7	666.7	0	85	45-105	0			
Acenaphthene	564.3	6.7	666.7	0	84.6	45-110	0			
Acenaphthylene	570.7	6.7	666.7	0	85.6	45-105	0			
Anthracene	661	6.7	666.7	0	99.1	55-105	0			
Benzo(a)anthracene	661.3	6.7	666.7	0	99.2	50-110	0			
Benzo(a)pyrene	650	6.7	666.7	0	97.5	50-110	0			
Benzo(b)fluoranthene	672.7	6.7	666.7	0	101	45-115	0			
Benzo(g,h,i)perylene	622.7	6.7	666.7	0	93.4	40-125	0			
Benzo(k)fluoranthene	645.3	6.7	666.7	0	96.8	45-115	0			
Chrysene	655	6.7	666.7	0	98.2	55-110	0			
Dibenzo(a,h)anthracene	615	6.7	666.7	0	92.2	40-125	0			
Fluoranthene	694.3	6.7	666.7	0	104	55-115	0			
Fluorene	590	6.7	666.7	0	88.5	50-110	0			
Indeno(1,2,3-cd)pyrene	618.7	6.7	666.7	0	92.8	40-120	0			
Naphthalene	413.3	6.7	666.7	0	62	40-105	0			
Phenanthrene	662.3	6.7	666.7	0	99.3	50-110	0			
Pyrene	674.3	6.7	666.7	0	101	45-125	0			
Surr: 2-Fluorobiphenyl	*1442*	0	*1667*	0	*86.5*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1618*	0	*1667*	0	*97.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*1449*	0	*1667*	0	*86.9*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071046-03A MS** Units: **µg/Kg** Analysis Date: **7/21/2015 07:31 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381390** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	878.9	13	1253	0	70.1	45-105	0			
Acenaphthene	976.6	13	1253	0	77.9	45-110	0			
Acenaphthylene	968.4	13	1253	0	77.3	45-105	0			
Anthracene	1236	13	1253	6.894	98.1	55-105	0			
Benzo(a)anthracene	1274	13	1253	23.31	99.8	50-110	0			
Benzo(a)pyrene	1233	13	1253	24.62	96.4	50-110	0			
Benzo(b)fluoranthene	1330	13	1253	26.59	104	45-115	0			
Benzo(g,h,i)perylene	1158	13	1253	16.41	91.1	40-125	0			
Benzo(k)fluoranthene	1237	13	1253	16.09	97.4	45-115	0			
Chrysene	1272	13	1253	22.65	99.7	55-110	0			
Dibenzo(a,h)anthracene	1065	13	1253	0	85	40-125	0			
Fluoranthene	1334	13	1253	57.12	102	55-115	0			
Fluorene	1071	13	1253	0	85.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1175	13	1253	22.32	92	40-120	0			
Naphthalene	628.3	13	1253	0	50.1	40-105	0			
Phenanthrene	1285	13	1253	30.86	100	50-110	0			
Pyrene	1353	13	1253	34.47	105	45-125	0			
Surr: 2-Fluorobiphenyl	*2259*	0	*3132*	0	*72.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3156*	0	*3132*	0	*101*	*25-137*	0			
Surr: Nitrobenzene-d5	*2186*	0	*3132*	0	*69.8*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071004
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071046-03A MSD** Units: **µg/Kg** Analysis Date: **7/21/2015 07:54 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381391** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1212	13	1317	0	92	45-105	878.9	31.9	30	R
Acenaphthene	1176	13	1317	0	89.3	45-110	976.6	18.5	30	
Acenaphthylene	1184	13	1317	0	89.9	45-105	968.4	20	30	
Anthracene	1333	13	1317	6.894	101	55-105	1236	7.56	30	
Benzo(a)anthracene	1304	13	1317	23.31	97.2	50-110	1274	2.32	30	
Benzo(a)pyrene	1292	13	1317	24.62	96.2	50-110	1233	4.7	30	
Benzo(b)fluoranthene	1370	13	1317	26.59	102	45-115	1330	2.92	30	
Benzo(g,h,i)perylene	1210	13	1317	16.41	90.6	40-125	1158	4.41	30	
Benzo(k)fluoranthene	1310	13	1317	16.09	98.2	45-115	1237	5.76	30	
Chrysene	1291	13	1317	22.65	96.3	55-110	1272	1.5	30	
Dibenzo(a,h)anthracene	1125	13	1317	0	85.4	40-125	1065	5.48	30	
Fluoranthene	1397	13	1317	57.12	102	55-115	1334	4.63	30	
Fluorene	1226	13	1317	0	93	50-110	1071	13.5	30	
Indeno(1,2,3-cd)pyrene	1200	13	1317	22.32	89.4	40-120	1175	2.14	30	
Naphthalene	869.3	13	1317	0	66	40-105	628.3	32.2	30	R
Phenanthrene	1345	13	1317	30.86	99.8	50-110	1285	4.57	30	
Pyrene	1359	13	1317	34.47	101	45-125	1353	0.415	30	
Surr: 2-Fluorobiphenyl	*2963*	0	*3293*	0	*90*	*12-100*	2259	*26.9*	*40*	
Surr: 4-Terphenyl-d14	*3249*	0	*3293*	0	*98.7*	*25-137*	3156	*2.9*	*40*	
Surr: Nitrobenzene-d5	*3087*	0	*3293*	0	*93.8*	*37-107*	2186	*34.2*	*40*	

The following samples were analyzed in this batch: 15071004-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071004
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73816** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73816-73816** Units: **mg/Kg** Analysis Date: **7/21/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150721S** SeqNo: **3380370** Prep Date: **7/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	1.0								

LCS Sample ID: **LCS-73816-73816** Units: **mg/Kg** Analysis Date: **7/21/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150721S** SeqNo: **3380369** Prep Date: **7/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.56	1.0	5	0	91.2	80-120	0			

MS Sample ID: **15071004-01A MS** Units: **mg/Kg** Analysis Date: **7/21/2015 04:00 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **WETCHEM_150721S** SeqNo: **3380352** Prep Date: **7/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.301	0.97	4.854	0.1827	84.8	75-125	0			

MS Sample ID: **15071004-01A MSI** Units: **mg/Kg** Analysis Date: **7/21/2015 04:00 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **WETCHEM_150721S** SeqNo: **3380354** Prep Date: **7/19/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3043	99	2788	0.1827	109	75-125	0			

MSD Sample ID: **15071004-01A MSD** Units: **mg/Kg** Analysis Date: **7/21/2015 04:00 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **WETCHEM_150721S** SeqNo: **3380353** Prep Date: **7/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.3	1.0	5	0.1827	82.3	75-125	4.301	0.0226	20	

The following samples were analyzed in this batch:

15071004-01A	15071004-02A	15071004-03A
15071004-04A	15071004-05A	15071004-06A
15071004-07A	15071004-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071004
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R167929** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R167929** Units: **% of sample** Analysis Date: **7/17/2015 05:15 PM**
Client ID: Run ID: **MOIST_150717D** SeqNo: **3376902** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R167929** Units: **% of sample** Analysis Date: **7/17/2015 05:15 PM**
Client ID: Run ID: **MOIST_150717D** SeqNo: **3376901** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071004-01A DUP** Units: **% of sample** Analysis Date: **7/17/2015 05:15 PM**
Client ID: **SO-017360-071715-JMD-019** Run ID: **MOIST_150717D** SeqNo: **3376879** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.55	0.050	0	0	0		5.62	1.25	20	

DUP Sample ID: **15071004-08A DUP** Units: **% of sample** Analysis Date: **7/17/2015 05:15 PM**
Client ID: **SO-017360-071715-JMD-026** Run ID: **MOIST_150717D** SeqNo: **3376891** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	11.6	0.050	0	0	0		11.12	4.23	20	

The following samples were analyzed in this batch:

15071004-01A	15071004-02A	15071004-03A
15071004-04A	15071004-05A	15071004-06A
15071004-07A	15071004-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

1507/004
COC NO.: PL-11897
PAGE ___ OF ___
(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-1039Sta-09[illegible]	**Laboratory Name:** [illegible]	**Lab Location:** [illegible]	**SSOW ID:** 017360
Project Name: [illegible]	**Lab Contact:** [illegible]	**Lab Quote No:**	**Cooler No:**
Project Location: [illegible]			**Carrier:** [illegible]
Chemistry Contact: [illegible]			**Airbill No:**
Sampler(s): [illegible]			**Date Shipped:**

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (Use back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCore 3x5g, 1x25g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions)								Comments/ Special Instructions:
1	SD-017360-071715-WM-019	7/17/15	1320	SD	G										X	X	X	X					
2	-020		1315																				
3	-021		1325																				
4	-022		1327																				
5	-023		1334																				
6	-024		1338																				
7	-025		1340																				
8	-026		1350																				
9																							
10																							
11																							
12																							
13																							
14																							
15																							

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 2

All Samples in Cooler must be on COC

Notes/ Special Requirements: 3.4°C

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1	[signature]	CRA	7/17/15	1540	[signature]	ALS	7/17/15	1540
2								
3								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (2011/0604)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **17-Jul-15 15:40**

Work Order: **15071004** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 17-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 17-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/17/2015 4:10:56 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

22-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071125**

Dear Rawa,

ALS Environmental received 1 sample on 21-Jul-2015 02:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071125**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071125-01	SO-017360-072115-EB-027	Soil		7/21/2015 12:50	7/21/2015 14:00	☐

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 15071125

Case Narrative

Batch 73767, Method SVO_8270_S, Sample 15071125-01A: The SVOC reporting limits are elevated due to dilution needed to eliminate matrix-related interference.

Batch 73870, Method CR6_7196_S, Sample 15071125-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

ALS Group USA, Corp

Date: 22-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071125**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *22-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-027
Collection Date: 7/21/2015 12:50 PM

Work Order: 15071125
Lab ID: 15071125-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/21/15		Analyst: **ML**
Arsenic	**6.8**		**0.35**	**2.3**	**mg/Kg-dry**	4	7/22/2015 00:45
Chromium	**17**		**0.36**	**2.3**	**mg/Kg-dry**	4	7/22/2015 00:45
Lead	**22**		**0.054**	**2.3**	**mg/Kg-dry**	4	7/22/2015 00:45
Manganese	**310**		**0.37**	**2.3**	**mg/Kg-dry**	4	7/22/2015 00:45
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/21/15		Analyst: **RS**
2-Methylnaphthalene	**170**		**35**	**99**	**µg/Kg-dry**	10	7/21/2015 21:45
Acenaphthene	U		37	99	µg/Kg-dry	10	7/21/2015 21:45
Acenaphthylene	U		30	99	µg/Kg-dry	10	7/21/2015 21:45
Anthracene	U		48	99	µg/Kg-dry	10	7/21/2015 21:45
Benzo(a)anthracene	U		60	99	µg/Kg-dry	10	7/21/2015 21:45
Benzo(a)pyrene	U		21	99	µg/Kg-dry	10	7/21/2015 21:45
Benzo(b)fluoranthene	U		34	99	µg/Kg-dry	10	7/21/2015 21:45
Benzo(g,h,i)perylene	U		43	99	µg/Kg-dry	10	7/21/2015 21:45
Benzo(k)fluoranthene	U		62	99	µg/Kg-dry	10	7/21/2015 21:45
Chrysene	U		83	99	µg/Kg-dry	10	7/21/2015 21:45
Dibenzo(a,h)anthracene	U		32	99	µg/Kg-dry	10	7/21/2015 21:45
Fluoranthene	**130**		**61**	**99**	**µg/Kg-dry**	10	7/21/2015 21:45
Fluorene	U		55	99	µg/Kg-dry	10	7/21/2015 21:45
Indeno(1,2,3-cd)pyrene	U		62	99	µg/Kg-dry	10	7/21/2015 21:45
Naphthalene	U		26	99	µg/Kg-dry	10	7/21/2015 21:45
Phenanthrene	U		55	99	µg/Kg-dry	10	7/21/2015 21:45
Pyrene	U		75	99	µg/Kg-dry	10	7/21/2015 21:45
Surr: 2-Fluorobiphenyl	*81.8*			*12-100*	*%REC*	10	7/21/2015 21:45
Surr: 4-Terphenyl-d14	*84.0*			*25-137*	*%REC*	10	7/21/2015 21:45
Surr: Nitrobenzene-d5	*78.6*			*37-107*	*%REC*	10	7/21/2015 21:45
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JB**
Chromium, Trivalent	**17**		**0.38**	**0.74**	**mg/Kg-dry**	1	7/22/2015 13:15
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/21/15		Analyst: **EE**
Chromium, Hexavalent	U		0.18	2.9	mg/Kg-dry	1	7/22/2015 14:30
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**33**		**0.025**	**0.050**	**% of sample**	1	7/21/2015 15:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73804** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73804-73804** Units: **mg/Kg** Analysis Date: **7/21/2015 09:36 PM**
Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380761** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73804-73804** Units: **mg/Kg** Analysis Date: **7/21/2015 09:42 PM**
Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380763** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.366	0.25	5	0	87.3	80-120	0			
Chromium	4.823	0.25	5	0	96.5	80-120	0			
Lead	4.882	0.25	5	0	97.6	80-120	0			
Manganese	4.87	0.25	5	0	97.4	80-120	0			

MS Sample ID: **15071041-01AMS** Units: **mg/Kg** Analysis Date: **7/21/2015 10:46 PM**
Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380785** Prep Date: **7/21/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.72	1.6	7.8	9.739	102	75-125	0			
Chromium	11.24	1.6	7.8	2.27	115	75-125	0			
Lead	43.96	1.6	7.8	34.9	116	75-125	0			O
Manganese	55.66	1.6	7.8	44.32	145	75-125	0			SO

MSD Sample ID: **15071041-01AMSD** Units: **mg/Kg** Analysis Date: **7/21/2015 10:53 PM**
Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380788** Prep Date: **7/21/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.49	1.5	7.728	9.739	87.4	75-125	17.72	7.14	25	
Chromium	11.15	1.5	7.728	2.27	115	75-125	11.24	0.793	25	
Lead	40.03	1.5	7.728	34.9	66.4	75-125	43.96	9.36	25	SO
Manganese	54.74	1.5	7.728	44.32	135	75-125	55.66	1.66	25	SO

The following samples were analyzed in this batch: 15071125-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:33 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381388** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1387*	0	*1667*	0	*83.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1622*	0	*1667*	0	*97.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1469*	0	*1667*	0	*88.1*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:55 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381389** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	566.7	6.7	666.7	0	85	45-105	0			
Acenaphthene	564.3	6.7	666.7	0	84.6	45-110	0			
Acenaphthylene	570.7	6.7	666.7	0	85.6	45-105	0			
Anthracene	661	6.7	666.7	0	99.1	55-105	0			
Benzo(a)anthracene	661.3	6.7	666.7	0	99.2	50-110	0			
Benzo(a)pyrene	650	6.7	666.7	0	97.5	50-110	0			
Benzo(b)fluoranthene	672.7	6.7	666.7	0	101	45-115	0			
Benzo(g,h,i)perylene	622.7	6.7	666.7	0	93.4	40-125	0			
Benzo(k)fluoranthene	645.3	6.7	666.7	0	96.8	45-115	0			
Chrysene	655	6.7	666.7	0	98.2	55-110	0			
Dibenzo(a,h)anthracene	615	6.7	666.7	0	92.2	40-125	0			
Fluoranthene	694.3	6.7	666.7	0	104	55-115	0			
Fluorene	590	6.7	666.7	0	88.5	50-110	0			
Indeno(1,2,3-cd)pyrene	618.7	6.7	666.7	0	92.8	40-120	0			
Naphthalene	413.3	6.7	666.7	0	62	40-105	0			
Phenanthrene	662.3	6.7	666.7	0	99.3	50-110	0			
Pyrene	674.3	6.7	666.7	0	101	45-125	0			
Surr: 2-Fluorobiphenyl	*1442*	0	*1667*	0	*86.5*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1618*	0	*1667*	0	*97.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*1449*	0	*1667*	0	*86.9*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071046-03A MS** Units: **µg/Kg** Analysis Date: **7/21/2015 07:31 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381390** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	878.9	13	1253	0	70.1	45-105	0			
Acenaphthene	976.6	13	1253	0	77.9	45-110	0			
Acenaphthylene	968.4	13	1253	0	77.3	45-105	0			
Anthracene	1236	13	1253	6.894	98.1	55-105	0			
Benzo(a)anthracene	1274	13	1253	23.31	99.8	50-110	0			
Benzo(a)pyrene	1233	13	1253	24.62	96.4	50-110	0			
Benzo(b)fluoranthene	1330	13	1253	26.59	104	45-115	0			
Benzo(g,h,i)perylene	1158	13	1253	16.41	91.1	40-125	0			
Benzo(k)fluoranthene	1237	13	1253	16.09	97.4	45-115	0			
Chrysene	1272	13	1253	22.65	99.7	55-110	0			
Dibenzo(a,h)anthracene	1065	13	1253	0	85	40-125	0			
Fluoranthene	1334	13	1253	57.12	102	55-115	0			
Fluorene	1071	13	1253	0	85.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1175	13	1253	22.32	92	40-120	0			
Naphthalene	628.3	13	1253	0	50.1	40-105	0			
Phenanthrene	1285	13	1253	30.86	100	50-110	0			
Pyrene	1353	13	1253	34.47	105	45-125	0			
Surr: 2-Fluorobiphenyl	*2259*	0	*3132*	0	*72.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3156*	0	*3132*	0	*101*	*25-137*	0			
Surr: Nitrobenzene-d5	*2186*	0	*3132*	0	*69.8*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071125
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071046-03A MSD** Units: **µg/Kg** Analysis Date: **7/21/2015 07:54 PM**

Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381391** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1212	13	1317	0	92	45-105	878.9	31.9	30	R
Acenaphthene	1176	13	1317	0	89.3	45-110	976.6	18.5	30	
Acenaphthylene	1184	13	1317	0	89.9	45-105	968.4	20	30	
Anthracene	1333	13	1317	6.894	101	55-105	1236	7.56	30	
Benzo(a)anthracene	1304	13	1317	23.31	97.2	50-110	1274	2.32	30	
Benzo(a)pyrene	1292	13	1317	24.62	96.2	50-110	1233	4.7	30	
Benzo(b)fluoranthene	1370	13	1317	26.59	102	45-115	1330	2.92	30	
Benzo(g,h,i)perylene	1210	13	1317	16.41	90.6	40-125	1158	4.41	30	
Benzo(k)fluoranthene	1310	13	1317	16.09	98.2	45-115	1237	5.76	30	
Chrysene	1291	13	1317	22.65	96.3	55-110	1272	1.5	30	
Dibenzo(a,h)anthracene	1125	13	1317	0	85.4	40-125	1065	5.48	30	
Fluoranthene	1397	13	1317	57.12	102	55-115	1334	4.63	30	
Fluorene	1226	13	1317	0	93	50-110	1071	13.5	30	
Indeno(1,2,3-cd)pyrene	1200	13	1317	22.32	89.4	40-120	1175	2.14	30	
Naphthalene	869.3	13	1317	0	66	40-105	628.3	32.2	30	R
Phenanthrene	1345	13	1317	30.86	99.8	50-110	1285	4.57	30	
Pyrene	1359	13	1317	34.47	101	45-125	1353	0.415	30	
Surr: 2-Fluorobiphenyl	*2963*	0	*3293*	0	*90*	*12-100*	2259	*26.9*	*40*	
Surr: 4-Terphenyl-d14	*3249*	0	*3293*	0	*98.7*	*25-137*	3156	*2.9*	*40*	
Surr: Nitrobenzene-d5	*3087*	0	*3293*	0	*93.8*	*37-107*	2186	*34.2*	*40*	

The following samples were analyzed in this batch: 15071125-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071125
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73870** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73870-73870** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382243** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.46	1.0								J

LCS Sample ID: **LCS-73870-73870** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382244** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.95	1.0	5	0	99	80-120	0			

MS Sample ID: **15071125-01A MS** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: **SO-017360-072115-EB-027** Run ID: **WETCHEM_150722O** SeqNo: **3382246** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.5524	0.95	4.762	0	11.6	75-125	0			JS

MS Sample ID: **15071125-01A MSI** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: **SO-017360-072115-EB-027** Run ID: **WETCHEM_150722O** SeqNo: **3382248** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.451	0.98	3407	0	0.0132	75-125	0			JS

MSD Sample ID: **15071125-01A MSD** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: **SO-017360-072115-EB-027** Run ID: **WETCHEM_150722O** SeqNo: **3382247** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	0.99	4.95	0	0	75-125	0.5524	0	20	S

The following samples were analyzed in this batch: 15071125-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071125
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168109** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168109** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381614** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168109** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381613** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071045-01A DUP** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381589** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.46	0.050	0	0	0		5.35	2.04	20	

DUP Sample ID: **15071102-01A DUP** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381596** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.93	0.050	0	0	0		5.96	15.1	20	

The following samples were analyzed in this batch: 15071125-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

COC NO.: PL- 11896

PAGE ___ OF ___

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-103/15-02/15	Laboratory Name: ALS	Lab Location: Holland, MI	SSOW ID: 017360
Project Name: Former GKMP - RACER	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No:
Project Location: Wyoming, MI			Carrier: Dan Oke
Chemistry Contact: Rana Fleck			Airbill No:
Sampler(s): Earl Batenburg			Date Shipped:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Sample Type: Unpreserved	Container Quantity & Preservation: Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (50/50) (VOC)	EnCores 3x5-gram/25gram	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): BTEX	VOC	Naphthalene	MNA	MS/MSD Required	Comments/ Special Instructions:
1	SD-017360-02115-EB-026	7/21/15	1240	SO	G										X	X	X	X	X	Rush 24hr TAT
2	SD-017360-02115-EB-027	7/21/15	1250	SO	G									1	X	X	X	X	X	
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

TAT Required in business days (use separate COCs for different TATs): ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 2

All Samples In Cooler must be on COC

Notes/ Special Requirements: 4.0°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1	GHD	7/21/15	1350	1	ALS	7/21/15	1400
2				2			
3				3			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (2011/0804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **21-Jul-15 14:00**

Work Order: **15071125** Received by: **CW**

Checklist completed by Diane Shaw (eSignature) 21-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 21-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/21/2015 2:03:45 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

23-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071126**

Dear Rawa,

ALS Environmental received 1 sample on 21-Jul-2015 02:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 23-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071126**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071126-01	SO-017360-072115-EB-026	Soil		7/21/2015 12:40	7/21/2015 14:00	☐

ALS Group USA, Corp

Date: 23-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071126**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *23-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-026
Collection Date: 7/21/2015 12:40 PM

Work Order: 15071126
Lab ID: 15071126-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/21/15		Analyst: **ML**
Arsenic	**16**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/22/2015 00:52
Chromium	**6.3**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/22/2015 00:52
Lead	**14**		**0.041**	**1.7**	**mg/Kg-dry**	4	7/22/2015 00:52
Manganese	**89**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/22/2015 00:52
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/21/15		Analyst: **RS**
2-Methylnaphthalene	**19**		**4.7**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Acenaphthene	U		5.0	13	µg/Kg-dry	1	7/21/2015 22:07
Acenaphthylene	U		4.1	13	µg/Kg-dry	1	7/21/2015 22:07
Anthracene	U		6.5	13	µg/Kg-dry	1	7/21/2015 22:07
Benzo(a)anthracene	**32**		**8.1**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Benzo(a)pyrene	**53**		**2.8**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Benzo(b)fluoranthene	**73**		**4.5**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Benzo(g,h,i)perylene	**39**		**5.8**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Benzo(k)fluoranthene	**33**		**8.4**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Chrysene	**51**		**11**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Dibenzo(a,h)anthracene	U		4.3	13	µg/Kg-dry	1	7/21/2015 22:07
Fluoranthene	**85**		**8.2**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Fluorene	U		7.4	13	µg/Kg-dry	1	7/21/2015 22:07
Indeno(1,2,3-cd)pyrene	**51**		**8.3**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Naphthalene	U		3.5	13	µg/Kg-dry	1	7/21/2015 22:07
Phenanthrene	**31**		**7.4**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Pyrene	**48**		**10**	**13**	**µg/Kg-dry**	1	7/21/2015 22:07
Surr: 2-Fluorobiphenyl	*84.7*			*12-100*	*%REC*	1	7/21/2015 22:07
Surr: 4-Terphenyl-d14	*96.3*			*25-137*	*%REC*	1	7/21/2015 22:07
Surr: Nitrobenzene-d5	*90.1*			*37-107*	*%REC*	1	7/21/2015 22:07
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JB**
Chromium, Trivalent	**5.8**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/22/2015 13:15
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/21/15		Analyst: **EE**
Chromium, Hexavalent	**0.48**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/22/2015 14:30
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.7**		**0.025**	**0.050**	**% of sample**	1	7/21/2015 15:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73804** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73804-73804** Units: **mg/Kg** Analysis Date: **7/21/2015 09:36 PM**

Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380761** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73804-73804** Units: **mg/Kg** Analysis Date: **7/21/2015 09:42 PM**

Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380763** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.366	0.25	5	0	87.3	80-120	0			
Chromium	4.823	0.25	5	0	96.5	80-120	0			
Lead	4.882	0.25	5	0	97.6	80-120	0			
Manganese	4.87	0.25	5	0	97.4	80-120	0			

MS Sample ID: **15071041-01AMS** Units: **mg/Kg** Analysis Date: **7/21/2015 10:46 PM**

Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380785** Prep Date: **7/21/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.72	1.6	7.8	9.739	102	75-125	0			
Chromium	11.24	1.6	7.8	2.27	115	75-125	0			
Lead	43.96	1.6	7.8	34.9	116	75-125	0			O
Manganese	55.66	1.6	7.8	44.32	145	75-125	0			SO

MSD Sample ID: **15071041-01AMSD** Units: **mg/Kg** Analysis Date: **7/21/2015 10:53 PM**

Client ID: Run ID: **ICPMS1_150721A** SeqNo: **3380788** Prep Date: **7/21/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.49	1.5	7.728	9.739	87.4	75-125	17.72	7.14	25	
Chromium	11.15	1.5	7.728	2.27	115	75-125	11.24	0.793	25	
Lead	40.03	1.5	7.728	34.9	66.4	75-125	43.96	9.36	25	SO
Manganese	54.74	1.5	7.728	44.32	135	75-125	55.66	1.66	25	SO

The following samples were analyzed in this batch: 15071126-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:33 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381388** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1387*	0	*1667*	0	*83.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1622*	0	*1667*	0	*97.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1469*	0	*1667*	0	*88.1*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73767-73767** Units: **µg/Kg** Analysis Date: **7/21/2015 04:55 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381389** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	566.7	6.7	666.7	0	85	45-105	0			
Acenaphthene	564.3	6.7	666.7	0	84.6	45-110	0			
Acenaphthylene	570.7	6.7	666.7	0	85.6	45-105	0			
Anthracene	661	6.7	666.7	0	99.1	55-105	0			
Benzo(a)anthracene	661.3	6.7	666.7	0	99.2	50-110	0			
Benzo(a)pyrene	650	6.7	666.7	0	97.5	50-110	0			
Benzo(b)fluoranthene	672.7	6.7	666.7	0	101	45-115	0			
Benzo(g,h,i)perylene	622.7	6.7	666.7	0	93.4	40-125	0			
Benzo(k)fluoranthene	645.3	6.7	666.7	0	96.8	45-115	0			
Chrysene	655	6.7	666.7	0	98.2	55-110	0			
Dibenzo(a,h)anthracene	615	6.7	666.7	0	92.2	40-125	0			
Fluoranthene	694.3	6.7	666.7	0	104	55-115	0			
Fluorene	590	6.7	666.7	0	88.5	50-110	0			
Indeno(1,2,3-cd)pyrene	618.7	6.7	666.7	0	92.8	40-120	0			
Naphthalene	413.3	6.7	666.7	0	62	40-105	0			
Phenanthrene	662.3	6.7	666.7	0	99.3	50-110	0			
Pyrene	674.3	6.7	666.7	0	101	45-125	0			
Surr: 2-Fluorobiphenyl	*1442*	0	*1667*	0	*86.5*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1618*	0	*1667*	0	*97.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*1449*	0	*1667*	0	*86.9*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071046-03A MS** Units: **µg/Kg** Analysis Date: **7/21/2015 07:31 PM**
Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381390** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	878.9	13	1253	0	70.1	45-105	0			
Acenaphthene	976.6	13	1253	0	77.9	45-110	0			
Acenaphthylene	968.4	13	1253	0	77.3	45-105	0			
Anthracene	1236	13	1253	6.894	98.1	55-105	0			
Benzo(a)anthracene	1274	13	1253	23.31	99.8	50-110	0			
Benzo(a)pyrene	1233	13	1253	24.62	96.4	50-110	0			
Benzo(b)fluoranthene	1330	13	1253	26.59	104	45-115	0			
Benzo(g,h,i)perylene	1158	13	1253	16.41	91.1	40-125	0			
Benzo(k)fluoranthene	1237	13	1253	16.09	97.4	45-115	0			
Chrysene	1272	13	1253	22.65	99.7	55-110	0			
Dibenzo(a,h)anthracene	1065	13	1253	0	85	40-125	0			
Fluoranthene	1334	13	1253	57.12	102	55-115	0			
Fluorene	1071	13	1253	0	85.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1175	13	1253	22.32	92	40-120	0			
Naphthalene	628.3	13	1253	0	50.1	40-105	0			
Phenanthrene	1285	13	1253	30.86	100	50-110	0			
Pyrene	1353	13	1253	34.47	105	45-125	0			
Surr: 2-Fluorobiphenyl	*2259*	0	*3132*	0	*72.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3156*	0	*3132*	0	*101*	*25-137*	0			
Surr: Nitrobenzene-d5	*2186*	0	*3132*	0	*69.8*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071126
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73767** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071046-03A MSD** Units: **µg/Kg** Analysis Date: **7/21/2015 07:54 PM**

Client ID: Run ID: **SVMS5_150721A** SeqNo: **3381391** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1212	13	1317	0	92	45-105	878.9	31.9	30	R
Acenaphthene	1176	13	1317	0	89.3	45-110	976.6	18.5	30	
Acenaphthylene	1184	13	1317	0	89.9	45-105	968.4	20	30	
Anthracene	1333	13	1317	6.894	101	55-105	1236	7.56	30	
Benzo(a)anthracene	1304	13	1317	23.31	97.2	50-110	1274	2.32	30	
Benzo(a)pyrene	1292	13	1317	24.62	96.2	50-110	1233	4.7	30	
Benzo(b)fluoranthene	1370	13	1317	26.59	102	45-115	1330	2.92	30	
Benzo(g,h,i)perylene	1210	13	1317	16.41	90.6	40-125	1158	4.41	30	
Benzo(k)fluoranthene	1310	13	1317	16.09	98.2	45-115	1237	5.76	30	
Chrysene	1291	13	1317	22.65	96.3	55-110	1272	1.5	30	
Dibenzo(a,h)anthracene	1125	13	1317	0	85.4	40-125	1065	5.48	30	
Fluoranthene	1397	13	1317	57.12	102	55-115	1334	4.63	30	
Fluorene	1226	13	1317	0	93	50-110	1071	13.5	30	
Indeno(1,2,3-cd)pyrene	1200	13	1317	22.32	89.4	40-120	1175	2.14	30	
Naphthalene	869.3	13	1317	0	66	40-105	628.3	32.2	30	R
Phenanthrene	1345	13	1317	30.86	99.8	50-110	1285	4.57	30	
Pyrene	1359	13	1317	34.47	101	45-125	1353	0.415	30	
Surr: 2-Fluorobiphenyl	*2963*	0	*3293*	0	*90*	*12-100*	2259	*26.9*	*40*	
Surr: 4-Terphenyl-d14	*3249*	0	*3293*	0	*98.7*	*25-137*	3156	*2.9*	*40*	
Surr: Nitrobenzene-d5	*3087*	0	*3293*	0	*93.8*	*37-107*	2186	*34.2*	*40*	

The following samples were analyzed in this batch: 15071126-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071126
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73870** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73870-73870** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382243** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.46	1.0								J

LCS Sample ID: **LCS-73870-73870** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382244** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.95	1.0	5	0	99	80-120	0			

MS Sample ID: **15071125-01A MS** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382246** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.5524	0.95	4.762	0	11.6	75-125	0			JS

MS Sample ID: **15071125-01A MSI** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382248** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.451	0.98	3407	0	0.0132	75-125	0			JS

MSD Sample ID: **15071125-01A MSD** Units: **mg/Kg** Analysis Date: **7/22/2015 02:30 PM**
Client ID: Run ID: **WETCHEM_150722O** SeqNo: **3382247** Prep Date: **7/21/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	0.99	4.95	0	0	75-125	0.5524	0	20	S

The following samples were analyzed in this batch: 15071126-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071126
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168109** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168109** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381614** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168109** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381613** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071045-01A DUP** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381589** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.46	0.050	0	0	0		5.35	2.04	20	

DUP Sample ID: **15071102-01A DUP** Units: **% of sample** Analysis Date: **7/21/2015 03:50 PM**
Client ID: Run ID: **MOIST_150721B** SeqNo: **3381596** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.93	0.050	0	0	0		5.96	15.1	20	

The following samples were analyzed in this batch: 15071126-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

150 11126

CHAIN OF CUSTODY RECORD

COC NO.: PL- 11896

PAGE ___ OF ___

(See Reverse Side for Instructions)

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123 Fax: (734) 453-5201

Project No/ Phase/Task Code: 017360-1034/15-02415	Laboratory Name: ALS	Lab Location: Holland, MI	SSOW ID: 017360
Project Name: Former GRMP - RACER	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No:
Project Location: Wyoming, MI			Carrier: Drop Off
Chemistry Contact: Raven Fletcher			Airbill No:
Sampler(s): Earl Britenburg			Date Shipped:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: PAHs	Pb	Cr+ III+VI	Mn	As	MS/MSD Request	Comments/ Special Instructions:
1	SD-017360-072115-EB-026	7/21/15	1240	SO	G	1								1	X	X	X	X	X		
2	SD-017360-072115-EB-027	7/21/15	1250	SO	G	1								1	X	X	X	X	X		24 hour TAT
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Total Number of Containers: 2

All Samples in Cooler must be on COC

Notes/ Special Requirements: 40c

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	7/21/15	1350		ALS	7/21/15	14:00
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **21-Jul-15 14:00**

Work Order: **15071126** Received by: **CW**

Checklist completed by Diane Shaw (eSignature) 21-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 21-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/21/2015 2:05:44 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

24-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071129**

Dear Rawa, Revision: **1**

ALS Environmental received 1 sample on 21-Jul-2015 02:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071129**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071129-01	SO-017360-072115-EB-01	Tclp Extract		7/21/2015 12:30	7/21/2015 14:00	☐

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 15071129

Case Narrative

Revised report sent 7/24/15 due to the addition of Cadmium to the reported TCLP metals.

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071129**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-01
Collection Date: 7/21/2015 12:30 PM

Work Order: 15071129
Lab ID: 15071129-01
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS		Method:	**SW6020A**		Prep: SW3005A / 7/22/15		Analyst: **RH**
Cadmium	**0.032**		**0.0010**	**0.0020**	**mg/L**	1	7/22/2015 20:31
Lead	**0.011**	J	**0.0010**	**0.050**	**mg/L**	1	7/22/2015 20:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.

QC BATCH REPORT

Work Order: 15071129

Project: Former GRMP (17360)

Batch ID: **73836** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-73836-73836** Units: **mg/L** Analysis Date: **7/22/2015 04:30 PM**

Client ID: Run ID: **ICPMS2_150722A** SeqNo: **3382819** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	U	0.0020								
Lead	U	0.0050								

LCS Sample ID: **LCS-73836-73836** Units: **mg/L** Analysis Date: **7/22/2015 04:35 PM**

Client ID: Run ID: **ICPMS2_150722A** SeqNo: **3382820** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	0.1001	0.0020	0.1	0	100	80-120	0			
Lead	0.09411	0.0050	0.1	0	94.1	80-120	0			

MS Sample ID: **15071127-04CMS** Units: **mg/L** Analysis Date: **7/22/2015 07:55 PM**

Client ID: Run ID: **ICPMS2_150722A** SeqNo: **3382870** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	0.09787	0.0020	0.1	-6.467E-06	97.9	75-125	0			
Lead	0.09384	0.0050	0.1	0.00001977	93.8	75-125	0			

MSD Sample ID: **15071127-04CMSD** Units: **mg/L** Analysis Date: **7/22/2015 08:00 PM**

Client ID: Run ID: **ICPMS2_150722A** SeqNo: **3382871** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	0.09708	0.0020	0.1	-6.467E-06	97.1	75-125	0.09787	0.81	20	
Lead	0.09373	0.0050	0.1	0.00001977	93.7	75-125	0.09384	0.117	20	

The following samples were analyzed in this batch: 15071129-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL-11895
PAGE 1 OF 1

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360 Tobyls=0215	Laboratory Name:	Lab Location:	SSOW ID: 017360
Project Name: Former Grant Trace	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No:
Project Location: Wyoming, MI			Carrier: Day Ho
Chemistry Contact: Rana Elbialy			Airbill No:
Sampler(s): Erin Batchelor			Date Shipped:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	Encore 3x5g, 1x25g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): TCLP Pb							Remarks/ Requisit	Comments/ Special Instructions:
1	SO-017360-0215-EB-01	7/2/15	1230	SO	G	X								1	X								
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

TAT Required in business days (use separate COCs for different TATs):
☒ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 1

All Samples in Cooler must be on COC

Notes/ Special Requirements: 4.0°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	GTD	7/2/15	1350	1.	ALS	7/01/15	14:00
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110904)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **21-Jul-15 14:00**

Work Order: **15071129** Received by: **CW**

Checklist completed by Diane Shaw (eSignature) 21-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 21-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/21/2015 2:15:41 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Revision: 1

24-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071160**

Dear Rawa,

ALS Environmental received 7 samples on 22-Jul-2015 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 21.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071160**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071160-01	SO-017360-072115-EB-028	Soil		7/21/2015 15:15	7/22/2015 09:30	☐
15071160-02	SO-017360-072115-EB-029	Soil		7/21/2015 15:25	7/22/2015 09:30	☐
15071160-03	SO-017360-072115-EB-030	Soil		7/21/2015 15:40	7/22/2015 09:30	☐
15071160-04	SO-017360-072115-EB-031	Soil		7/21/2015 15:50	7/22/2015 09:30	☐
15071160-05	SO-017360-072115-EB-032	Soil		7/21/2015 15:55	7/22/2015 09:30	☐
15071160-06	SO-017360-072115-EB-033	Soil		7/21/2015 16:00	7/22/2015 09:30	☐
15071160-07	SO-017360-072115-EB-034	Soil		7/21/2015 16:15	7/22/2015 09:30	☐

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 15071160

Case Narrative

Batch 73891, Method SVO_8270_S, Samples 15071160-03A: The SVOC reporting limits are elevated due to dilution needed to eliminate matrix-related interference.

Batch 73989, Method CR6_7196_S, Sample 15071160-04A MS: The MS recovery was outside of the control limit for Hexavalent Chromium. However, the MSD recovery and the RPD between the MS and MSD were in control. No qualification is required.

ALS Group USA, Corp

Date: 24-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071160**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-028
Collection Date: 7/21/2015 03:15 PM

Work Order: 15071160
Lab ID: 15071160-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**5.4**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:13
Chromium	**350**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:13
Lead	**400**		**0.041**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:13
Manganese	**780**		**2.8**	**17**	**mg/Kg-dry**	40	7/22/2015 18:01
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RS**
2-Methylnaphthalene	**72**		**25**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Acenaphthene	U		27	72	µg/Kg-dry	10	7/23/2015 21:54
Acenaphthylene	U		22	72	µg/Kg-dry	10	7/23/2015 21:54
Anthracene	**220**		**35**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Benzo(a)anthracene	**1,500**		**44**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Benzo(a)pyrene	**1,600**		**15**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Benzo(b)fluoranthene	**2,500**		**25**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Benzo(g,h,i)perylene	**1,300**		**32**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Benzo(k)fluoranthene	**790**		**45**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Chrysene	**1,900**		**61**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Dibenzo(a,h)anthracene	**450**		**23**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Fluoranthene	**3,000**		**44**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Fluorene	U		40	72	µg/Kg-dry	10	7/23/2015 21:54
Indeno(1,2,3-cd)pyrene	**1,400**		**45**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Naphthalene	U		19	72	µg/Kg-dry	10	7/23/2015 21:54
Phenanthrene	**1,200**		**40**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Pyrene	**2,300**		**55**	**72**	**µg/Kg-dry**	10	7/23/2015 21:54
Surr: 2-Fluorobiphenyl	*78.6*			*12-100*	*%REC*	10	7/23/2015 21:54
Surr: 4-Terphenyl-d14	*86.4*			*25-137*	*%REC*	10	7/23/2015 21:54
Surr: Nitrobenzene-d5	*56.2*			*37-107*	*%REC*	10	7/23/2015 21:54
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**350**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**2.4**		**0.13**	**2.0**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**9.8**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-029
Collection Date: 7/21/2015 03:25 PM

Work Order: 15071160
Lab ID: 15071160-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**6.1**		**0.21**	**1.4**	**mg/Kg-dry**	4	7/22/2015 18:19
Chromium	**180**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/22/2015 18:19
Lead	**63**		**0.033**	**1.4**	**mg/Kg-dry**	4	7/22/2015 18:19
Manganese	**430**		**0.22**	**1.4**	**mg/Kg-dry**	4	7/22/2015 18:19
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RS**
2-Methylnaphthalene	**700**		**24**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Acenaphthene	**1,700**		**26**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Acenaphthylene	**310**		**21**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Anthracene	**4,000**		**33**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Benzo(a)anthracene	**13,000**		**41**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Benzo(a)pyrene	**10,000**		**14**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Benzo(b)fluoranthene	**15,000**		**23**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Benzo(g,h,i)perylene	**6,200**		**30**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Benzo(k)fluoranthene	**5,000**		**43**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Chrysene	**14,000**		**58**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Dibenzo(a,h)anthracene	**1,900**		**22**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Fluoranthene	**28,000**		**84**	**140**	**µg/Kg-dry**	20	7/24/2015 14:39
Fluorene	**2,100**		**38**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Indeno(1,2,3-cd)pyrene	**6,600**		**43**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Naphthalene	**750**		**18**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Phenanthrene	**19,000**		**38**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Pyrene	**19,000**		**52**	**68**	**µg/Kg-dry**	10	7/23/2015 22:16
Surr: 2-Fluorobiphenyl	*84.4*			*12-100*	*%REC*	10	7/23/2015 22:16
Surr: 4-Terphenyl-d14	*80.2*			*25-137*	*%REC*	10	7/23/2015 22:16
Surr: Nitrobenzene-d5	*69.8*			*37-107*	*%REC*	10	7/23/2015 22:16
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**170**		**0.26**	**0.51**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**4.7**		**0.13**	**2.1**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**2.6**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-030
Collection Date: 7/21/2015 03:40 PM

Work Order: 15071160
Lab ID: 15071160-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**5.8**		**0.24**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:27
Chromium	**180**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:27
Lead	**20**		**0.038**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:27
Manganese	**2,400**		**2.6**	**16**	**mg/Kg-dry**	40	7/23/2015 15:03
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RS**
2-Methylnaphthalene	U		130	380	µg/Kg-dry	50	7/23/2015 22:38
Acenaphthene	U		140	380	µg/Kg-dry	50	7/23/2015 22:38
Acenaphthylene	U		120	380	µg/Kg-dry	50	7/23/2015 22:38
Anthracene	U		180	380	µg/Kg-dry	50	7/23/2015 22:38
Benzo(a)anthracene	U		230	380	µg/Kg-dry	50	7/23/2015 22:38
Benzo(a)pyrene	U		79	380	µg/Kg-dry	50	7/23/2015 22:38
Benzo(b)fluoranthene	U		130	380	µg/Kg-dry	50	7/23/2015 22:38
Benzo(g,h,i)perylene	U		160	380	µg/Kg-dry	50	7/23/2015 22:38
Benzo(k)fluoranthene	U		230	380	µg/Kg-dry	50	7/23/2015 22:38
Chrysene	U		320	380	µg/Kg-dry	50	7/23/2015 22:38
Dibenzo(a,h)anthracene	U		120	380	µg/Kg-dry	50	7/23/2015 22:38
Fluoranthene	U		230	380	µg/Kg-dry	50	7/23/2015 22:38
Fluorene	U		210	380	µg/Kg-dry	50	7/23/2015 22:38
Indeno(1,2,3-cd)pyrene	U		230	380	µg/Kg-dry	50	7/23/2015 22:38
Naphthalene	U		97	380	µg/Kg-dry	50	7/23/2015 22:38
Phenanthrene	U		210	380	µg/Kg-dry	50	7/23/2015 22:38
Pyrene	U		280	380	µg/Kg-dry	50	7/23/2015 22:38
Surr: 2-Fluorobiphenyl	*85.0*			*12-100*	*%REC*	50	7/23/2015 22:38
Surr: 4-Terphenyl-d14	*86.0*			*25-137*	*%REC*	50	7/23/2015 22:38
Surr: Nitrobenzene-d5	*78.0*			*37-107*	*%REC*	50	7/23/2015 22:38
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**180**		**0.29**	**0.56**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**2.5**		**0.13**	**2.0**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-031
Collection Date: 7/21/2015 03:50 PM

Work Order: 15071160
Lab ID: 15071160-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**4.5**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:34
Chromium	**45**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:34
Lead	**13**		**0.038**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:34
Manganese	**310**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/22/2015 18:34
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RM**
2-Methylnaphthalene	**82**		**26**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Acenaphthene	**970**		**28**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Acenaphthylene	**78**		**23**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Anthracene	**2,000**		**36**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Benzo(a)anthracene	**4,300**		**45**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Benzo(a)pyrene	**4,600**		**16**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Benzo(b)fluoranthene	**6,600**		**25**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Benzo(g,h,i)perylene	**3,600**		**32**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Benzo(k)fluoranthene	**1,800**		**47**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Chrysene	**4,500**		**63**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Dibenzo(a,h)anthracene	**770**		**24**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Fluoranthene	**14,000**		**46**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Fluorene	**990**		**41**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Indeno(1,2,3-cd)pyrene	**4,600**		**46**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Naphthalene	**120**		**19**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Phenanthrene	**9,200**		**41**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Pyrene	**9,500**		**56**	**74**	**µg/Kg-dry**	10	7/24/2015 04:51
Surr: 2-Fluorobiphenyl	*73.2*			*12-100*	*%REC*	10	7/24/2015 04:51
Surr: 4-Terphenyl-d14	*78.2*			*25-137*	*%REC*	10	7/24/2015 04:51
Surr: Nitrobenzene-d5	*81.6*			*37-107*	*%REC*	10	7/24/2015 04:51
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**44**		**0.29**	**0.57**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**0.51**	J	**0.14**	**2.3**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-032
Collection Date: 7/21/2015 03:55 PM

Work Order: 15071160
Lab ID: 15071160-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**7.7**		**0.33**	**2.1**	**mg/Kg-dry**	4	7/22/2015 18:40
Chromium	**92**		**0.34**	**2.1**	**mg/Kg-dry**	4	7/22/2015 18:40
Lead	**98**		**0.050**	**2.1**	**mg/Kg-dry**	4	7/22/2015 18:40
Manganese	**590**		**0.34**	**2.1**	**mg/Kg-dry**	4	7/22/2015 18:40
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RM**
2-Methylnaphthalene	**270**		**31**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Acenaphthene	**2,900**		**33**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Acenaphthylene	**670**		**27**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Anthracene	**10,000**		**43**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Benzo(a)anthracene	**36,000**		**540**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Benzo(a)pyrene	**31,000**		**190**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Benzo(b)fluoranthene	**48,000**		**300**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Benzo(g,h,i)perylene	**18,000**		**39**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Benzo(k)fluoranthene	**15,000**		**55**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Chrysene	**43,000**		**750**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Dibenzo(a,h)anthracene	**5,100**		**29**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Fluoranthene	**85,000**		**540**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Fluorene	**3,400**		**49**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Indeno(1,2,3-cd)pyrene	**23,000**		**55**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Naphthalene	**270**		**23**	**89**	**µg/Kg-dry**	10	7/24/2015 05:10
Phenanthrene	**46,000**		**490**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Pyrene	**62,000**		**670**	**890**	**µg/Kg-dry**	100	7/24/2015 16:33
Surr: 2-Fluorobiphenyl	*71.6*			*12-100*	*%REC*	10	7/24/2015 05:10
Surr: 4-Terphenyl-d14	*84.0*			*25-137*	*%REC*	10	7/24/2015 05:10
Surr: Nitrobenzene-d5	*78.2*			*37-107*	*%REC*	10	7/24/2015 05:10
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**91**		**0.34**	**0.67**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**0.89**	J	**0.16**	**2.5**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**25**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-033
Collection Date: 7/21/2015 04:00 PM

Work Order: 15071160
Lab ID: 15071160-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**8.8**		**0.26**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:46
Chromium	**14**		**0.26**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:46
Lead	**78**		**0.040**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:46
Manganese	**97**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/22/2015 18:46
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RM**
2-Methylnaphthalene	**110**		**2.6**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Acenaphthene	**69**		**2.7**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Acenaphthylene	**20**		**2.2**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Anthracene	**290**		**3.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Benzo(a)anthracene	**1,000**		**4.4**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Benzo(a)pyrene	**840**		**1.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Benzo(b)fluoranthene	**1,300**		**2.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Benzo(g,h,i)perylene	**520**		**3.2**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Benzo(k)fluoranthene	**460**		**4.6**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Chrysene	**1,000**		**6.1**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Dibenzo(a,h)anthracene	**170**		**2.4**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Fluoranthene	**2,100**		**4.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Fluorene	**90**		**4.0**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Indeno(1,2,3-cd)pyrene	**710**		**4.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Naphthalene	**67**		**1.9**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Phenanthrene	**1,200**		**4.0**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Pyrene	**1,500**		**5.5**	**7.3**	**µg/Kg-dry**	1	7/24/2015 05:30
Surr: 2-Fluorobiphenyl	*76.0*			*12-100*	*%REC*	1	7/24/2015 05:30
Surr: 4-Terphenyl-d14	*86.0*			*25-137*	*%REC*	1	7/24/2015 05:30
Surr: Nitrobenzene-d5	*84.5*			*37-107*	*%REC*	1	7/24/2015 05:30
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**14**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**0.19**	J	**0.12**	**2.0**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**9.2**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072115-EB-034
Collection Date: 7/21/2015 04:15 PM

Work Order: 15071160
Lab ID: 15071160-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Arsenic	**8.7**		**0.27**	**1.8**	**mg/Kg-dry**	4	7/22/2015 18:52
Chromium	**29**		**0.28**	**1.8**	**mg/Kg-dry**	4	7/22/2015 18:52
Lead	**67**		**0.042**	**1.8**	**mg/Kg-dry**	4	7/22/2015 18:52
Manganese	**370**		**0.29**	**1.8**	**mg/Kg-dry**	4	7/22/2015 18:52
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/23/15		Analyst: **RM**
2-Methylnaphthalene	**50**		**2.9**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Acenaphthene	**11**		**3.1**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Acenaphthylene	**10**		**2.6**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Anthracene	**36**		**4.0**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Benzo(a)anthracene	**180**		**5.0**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Benzo(a)pyrene	**180**		**1.8**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Benzo(b)fluoranthene	**320**		**2.8**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Benzo(g,h,i)perylene	**160**		**3.6**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Benzo(k)fluoranthene	**96**		**5.2**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Chrysene	**220**		**7.0**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Dibenzo(a,h)anthracene	**39**		**2.7**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Fluoranthene	**360**		**5.1**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Fluorene	**10**		**4.6**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Indeno(1,2,3-cd)pyrene	**190**		**5.2**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Naphthalene	**34**		**2.2**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Phenanthrene	**180**		**4.6**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Pyrene	**260**		**6.3**	**8.3**	**µg/Kg-dry**	1	7/24/2015 05:50
Surr: 2-Fluorobiphenyl	*71.0*			*12-100*	*%REC*	1	7/24/2015 05:50
Surr: 4-Terphenyl-d14	*80.2*			*25-137*	*%REC*	1	7/24/2015 05:50
Surr: Nitrobenzene-d5	*78.8*			*37-107*	*%REC*	1	7/24/2015 05:50
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**28**		**0.32**	**0.64**	**mg/Kg-dry**	1	7/24/2015 16:25
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/23/15		Analyst: **MB**
Chromium, Hexavalent	**0.88**	J	**0.16**	**2.5**	**mg/Kg-dry**	1	7/24/2015 10:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**22**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73865** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73865-73865** Units: **mg/Kg** Analysis Date: **7/22/2015 05:30 PM**

Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382880** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73865-73865** Units: **mg/Kg** Analysis Date: **7/22/2015 05:36 PM**

Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382881** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.498	0.25	5	0	90	80-120	0			
Chromium	5.125	0.25	5	0	102	80-120	0			
Lead	4.962	0.25	5	0	99.2	80-120	0			
Manganese	5.07	0.25	5	0	101	80-120	0			

MS Sample ID: **15071177-01AMS** Units: **mg/Kg** Analysis Date: **7/22/2015 07:23 PM**

Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382898** Prep Date: **7/22/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.869	1.3	6.427	0.5105	98.9	75-125	0			
Chromium	12.61	1.3	6.427	4.494	126	75-125	0			S
Lead	9.051	1.3	6.427	2.162	107	75-125	0			
Manganese	20.76	1.3	6.427	9.65	173	75-125	0			S

MSD Sample ID: **15071177-01AMSD** Units: **mg/Kg** Analysis Date: **7/22/2015 07:29 PM**

Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382899** Prep Date: **7/22/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.142	1.3	6.329	0.5105	105	75-125	6.869	3.9	25	
Chromium	13.38	1.3	6.329	4.494	140	75-125	12.61	5.89	25	S
Lead	9.734	1.3	6.329	2.162	120	75-125	9.051	7.27	25	
Manganese	20.9	1.3	6.329	9.65	178	75-125	20.76	0.686	25	S

The following samples were analyzed in this batch:

15071160-01A	15071160-02A	15071160-03A
15071160-04A	15071160-05A	15071160-06A
15071160-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73891** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73891-73891** Units: **µg/Kg** Analysis Date: **7/23/2015 05:23 PM**
Client ID: Run ID: **SVMS5_150723A** SeqNo: **3384785** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	4.667	6.7								J
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1437*	0	*1667*	0	*86.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1589*	0	*1667*	0	*95.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1460*	0	*1667*	0	*87.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071160
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73891** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73891-73891** Units: **µg/Kg** Analysis Date: **7/23/2015 05:46 PM**
Client ID: Run ID: **SVMS5_150723A** SeqNo: **3384786** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	554	6.7	666.7	0	83.1	45-105	0			
Acenaphthene	555.7	6.7	666.7	0	83.3	45-110	0			
Acenaphthylene	548.3	6.7	666.7	0	82.2	45-105	0			
Anthracene	641	6.7	666.7	0	96.1	55-105	0			
Benzo(a)anthracene	659.3	6.7	666.7	0	98.9	50-110	0			
Benzo(a)pyrene	640.7	6.7	666.7	0	96.1	50-110	0			
Benzo(b)fluoranthene	682.7	6.7	666.7	0	102	45-115	0			
Benzo(g,h,i)perylene	638.7	6.7	666.7	0	95.8	40-125	0			
Benzo(k)fluoranthene	672	6.7	666.7	0	101	45-115	0			
Chrysene	657.3	6.7	666.7	0	98.6	55-110	0			
Dibenzo(a,h)anthracene	622.7	6.7	666.7	0	93.4	40-125	0			
Fluoranthene	672	6.7	666.7	0	101	55-115	0			
Fluorene	573.3	6.7	666.7	0	86	50-110	0			
Indeno(1,2,3-cd)pyrene	597.3	6.7	666.7	0	89.6	40-120	0			
Naphthalene	401	6.7	666.7	0	60.1	40-105	0			
Phenanthrene	665.3	6.7	666.7	0	99.8	50-110	0			
Pyrene	697	6.7	666.7	0	105	45-125	0			
Surr: 2-Fluorobiphenyl	*1351*	0	*1667*	0	*81*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1654*	0	*1667*	0	*99.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1306*	0	*1667*	0	*78.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071160
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73891** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071196-01C MS** Units: **µg/Kg** Analysis Date: **7/23/2015 08:46 PM**
Client ID: Run ID: **SVMS5_150723A** SeqNo: **3385068** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1198	13	1285	0	93.2	45-105	0			
Acenaphthene	1181	13	1285	0	91.9	45-110	0			
Acenaphthylene	1176	13	1285	0	91.5	45-105	0			
Anthracene	1262	13	1285	0	98.2	55-105	0			
Benzo(a)anthracene	1227	13	1285	0	95.5	50-110	0			
Benzo(a)pyrene	1212	13	1285	0	94.3	50-110	0			
Benzo(b)fluoranthene	1270	13	1285	0	98.8	45-115	0			
Benzo(g,h,i)perylene	1163	13	1285	0	90.5	40-125	0			
Benzo(k)fluoranthene	1182	13	1285	0	92	45-115	0			
Chrysene	1187	13	1285	0	92.4	55-110	0			
Dibenzo(a,h)anthracene	1159	13	1285	0	90.2	40-125	0			
Fluoranthene	1293	13	1285	0	101	55-115	0			
Fluorene	1172	13	1285	0	91.2	50-110	0			
Indeno(1,2,3-cd)pyrene	1169	13	1285	0	91	40-120	0			
Naphthalene	862	13	1285	0	67.1	40-105	0			
Phenanthrene	1276	13	1285	0	99.3	50-110	0			
Pyrene	1287	13	1285	0	100	45-125	0			
Surr: 2-Fluorobiphenyl	*2896*	0	*3212*	0	*90.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3081*	0	*3212*	0	*95.9*	*25-137*	0			
Surr: Nitrobenzene-d5	*2911*	0	*3212*	0	*90.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071160
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73891** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071196-01C MSD** Units: **µg/Kg** Analysis Date: **7/23/2015 09:09 PM**
Client ID: Run ID: **SVMS5_150723A** SeqNo: **3385069** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1023	13	1259	0	81.2	45-105	1198	15.7	30	
Acenaphthene	1074	13	1259	0	85.3	45-110	1181	9.44	30	
Acenaphthylene	1070	13	1259	0	84.9	45-105	1176	9.47	30	
Anthracene	1261	13	1259	0	100	55-105	1262	0.0814	30	
Benzo(a)anthracene	1250	13	1259	0	99.2	50-110	1227	1.85	30	
Benzo(a)pyrene	1230	13	1259	0	97.6	50-110	1212	1.44	30	
Benzo(b)fluoranthene	1266	13	1259	0	101	45-115	1270	0.292	30	
Benzo(g,h,i)perylene	1208	13	1259	0	95.9	40-125	1163	3.74	30	
Benzo(k)fluoranthene	1228	13	1259	0	97.5	45-115	1182	3.81	30	
Chrysene	1214	13	1259	0	96.4	55-110	1187	2.24	30	
Dibenzo(a,h)anthracene	1147	13	1259	0	91.1	40-125	1159	1.06	30	
Fluoranthene	1293	13	1259	0	103	55-115	1293	0.0195	30	
Fluorene	1125	13	1259	0	89.3	50-110	1172	4.1	30	
Indeno(1,2,3-cd)pyrene	1192	13	1259	0	94.7	40-120	1169	1.99	30	
Naphthalene	721.5	13	1259	0	57.3	40-105	862	17.7	30	
Phenanthrene	1277	13	1259	0	101	50-110	1276	0.096	30	
Pyrene	1296	13	1259	0	103	45-125	1287	0.712	30	
Surr: 2-Fluorobiphenyl	*2562*	0	*3148*	0	*81.4*	*12-100*	2896	*12.2*	*40*	
Surr: 4-Terphenyl-d14	*3079*	0	*3148*	0	*97.8*	*25-137*	3081	*0.0562*	*40*	
Surr: Nitrobenzene-d5	*2409*	0	*3148*	0	*76.5*	*37-107*	2911	*18.8*	*40*	

The following samples were analyzed in this batch:

15071160-01A	15071160-02A	15071160-03A
15071160-04A	15071160-05A	15071160-06A
15071160-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071160
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73989** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73989-73989** Units: **mg/Kg** Analysis Date: **7/24/2015 10:00 AM**
Client ID: Run ID: **WETCHEM_150724B** SeqNo: **3385242** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	1.0								

LCS Sample ID: **LCS-73989-73989** Units: **mg/Kg** Analysis Date: **7/24/2015 10:00 AM**
Client ID: Run ID: **WETCHEM_150724B** SeqNo: **3385241** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.81	1.0	5	0	96.2	80-120	0			

MS Sample ID: **15071160-04A MS** Units: **mg/Kg** Analysis Date: **7/24/2015 10:00 AM**
Client ID: **SO-017360-072115-EB-031** Run ID: **WETCHEM_150724B** SeqNo: **3385233** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.129	0.99	4.95	0.45	74.3	75-125	0			S

MS Sample ID: **15071160-04A MSI** Units: **mg/Kg** Analysis Date: **7/24/2015 10:00 AM**
Client ID: **SO-017360-072115-EB-031** Run ID: **WETCHEM_150724B** SeqNo: **3385235** Prep Date: **7/23/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2584	97	2734	0.45	94.5	75-125	0			

MSD Sample ID: **15071160-04A MSD** Units: **mg/Kg** Analysis Date: **7/24/2015 10:00 AM**
Client ID: **SO-017360-072115-EB-031** Run ID: **WETCHEM_150724B** SeqNo: **3385234** Prep Date: **7/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.095	0.95	4.762	0.45	76.6	75-125	4.129	0.814	20	

The following samples were analyzed in this batch:

15071160-01A	15071160-02A	15071160-03A
15071160-04A	15071160-05A	15071160-06A
15071160-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071160
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168209** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168209** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383565** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168209** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383564** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071178-01B DUP** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383562** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.94	0.050	0	0	0		6.46	7.16	20	

The following samples were analyzed in this batch:

15071160-01A	15071160-02A	15071160-03A
15071160-04A	15071160-05A	15071160-06A
15071160-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

COC NO.: PL-10839
PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017300-10319-0024	Laboratory Name: ALS	Lab Location: Holland MI	SSOW ID: 17300
Project Name: Former GRAP-RACER	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No: -
Project Location: Wyoming, MI			Carrier: Fedex
Chemistry Contact: Kara Fleisher			Airbill No: -
Sampler(s): E. Buterbaugh			Date Shipped: 7-21-15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Bolt VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PB-total	MW-total	AS	CT	SHAW	MS/MSD Request	Comments/ Special Instructions:
1	SO-017300-07215-EB-008	7/21/15	1515	SO	G	1								1	X	X	X	X			
2	-029		1525												X	X	X	X			
3	-030		1540												X	X	X	X			
4	-031		1550												X	X	X	X			
5	-032		1555												X	X	X	X			
6	-033		1600												X	X	X	X			
7	-034		1615												X	X	X	X			
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 7
All Samples in Cooler must be on COC.

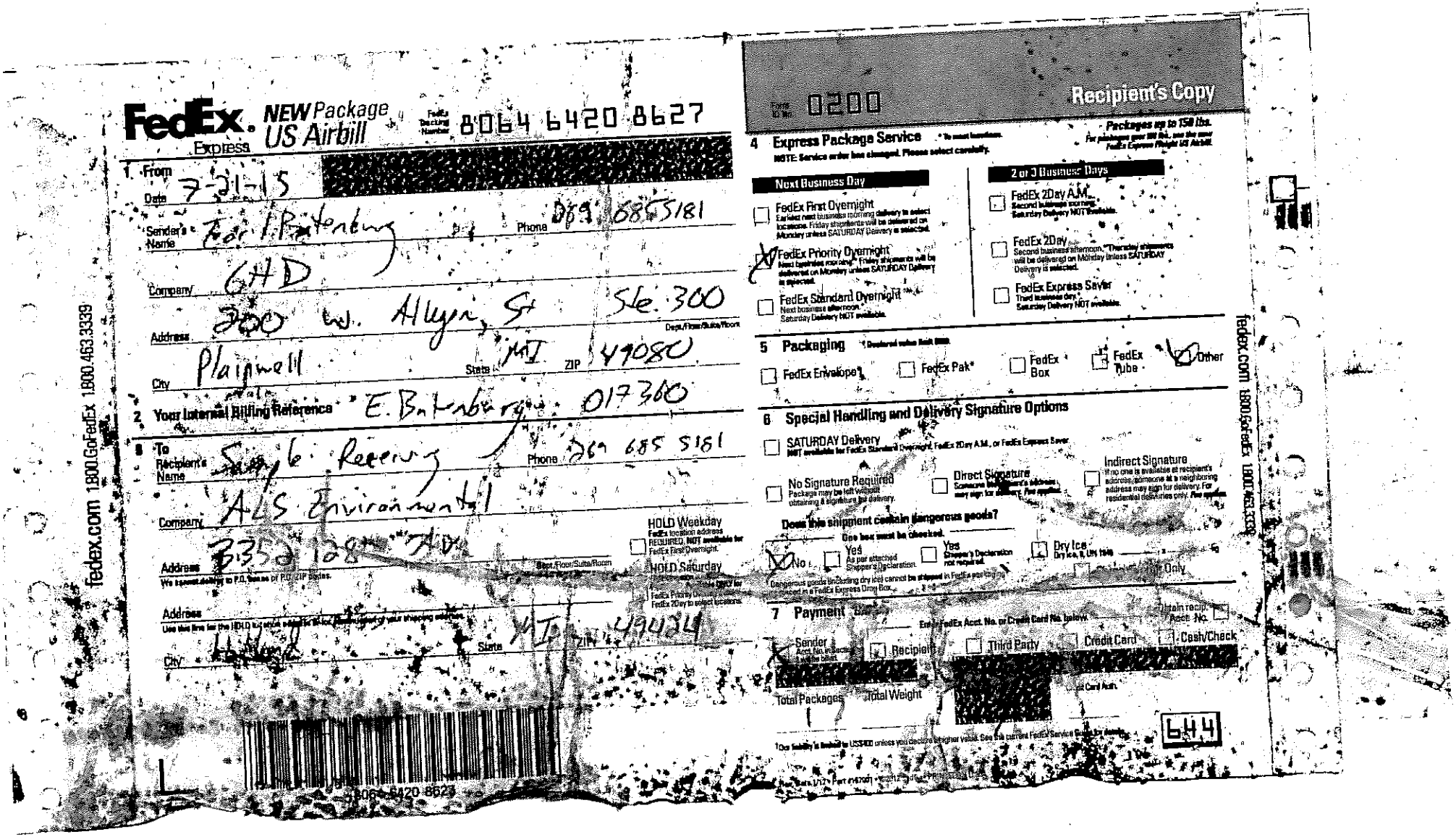
Notes/ Special Requirements: 4.6°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	GHD	7-21-15	1730	1. FedEx			
2. FedEx				2.	ACS	7/22/15	0930
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110604)



FedEx Express NEW Package US Airbill

FedEx Tracking Number 8064 6420 8627

Form ID No. 0200

Recipient's Copy

1 From

Date 7-31-15

Sender's Name Eric L Rutenberg Phone 269 685 5181

Company GHD

Address 300 W. Allyn St Ste. 300

City Plainwell State MI ZIP 49080

Dept./Floor/Suite/Room

2 Your Internal Billing Reference E. Rutenberg 017360

3 To

Recipient's Name Shipping Receiving Phone 269 685 5161

Company ALS Environmental

Address 3350 128th Ave

We cannot deliver to P.O. boxes or P.O. ZIP Codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for additional shipping information.

City Holland State MI ZIP 49424

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
Available ONLY for FedEx Priority Overnight, FedEx 2Day to select locations.

4 Express Package Service

Packages up to 150 lbs.

NOTE: Service order has changed. Please select carefully.

Next Business Day

- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Priority Overnight — Next business morning. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon. Saturday Delivery NOT available.

2 or 3 Business Days

- FedEx 2Day A.M. — Second business morning. Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day. Saturday Delivery NOT available.

5 Packaging

- FedEx Envelope*
- FedEx Pak*
- FedEx Box
- FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver

- No Signature Required — Package may be left without obtaining a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

- [X] No
- Yes — As per attached Shipper's Declaration
- Yes — Shipper's Declaration not required
- Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recipient Acct. No.

- [X] Sender — Acct. No. in Section 1 will be billed.
- Recipient
- Third Party
- Credit Card
- Cash/Check

Total Packages 1 Total Weight

Credit Card Auth.

644

*Our liability is limited to US$500 unless you declare a higher value. See the current FedEx Service Guide for details.

Part #149097 ©1994-2012 FedEx

8064 6420 8627

fedex.com 1.800.GoFedEx 1.800.463.3339

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **22-Jul-15 09:30**

Work Order: **15071160** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 22-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 23-Jul-15 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.6 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/22/2015 10:29:51 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

23-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071177**

Dear Rawa,

ALS Environmental received 3 samples on 22-Jul-2015 12:50 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 23-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071177**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071177-01	SO-17360-072215-EB-035	Soil		7/22/2015 11:05	7/22/2015 12:50	☐
15071177-02	SO-17360-072215-EB-036	Soil		7/22/2015 11:15	7/22/2015 12:50	☐
15071177-03	SO-17360-072215-EB-037	Soil		7/22/2015 11:25	7/22/2015 12:50	☐

ALS Group USA, Corp

Date: 23-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071177**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *23-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-17360-072215-EB-035
Collection Date: 7/22/2015 11:05 AM

Work Order: 15071177
Lab ID: 15071177-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**		Prep: SW3050B / 7/22/15			Analyst: **ML**
Lead	**2.6**		**0.036**	**1.5**	**mg/Kg-dry**	4	7/22/2015 18:58
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**15**		**0.025**	**0.050**	**% of sample**	1	7/23/2015 09:25

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *23-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-17360-072215-EB-036
Collection Date: 7/22/2015 11:15 AM

Work Order: 15071177
Lab ID: 15071177-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/22/15		Analyst: **ML**
Lead	**3.0**		**0.042**	**1.7**	**mg/Kg-dry**	4	7/22/2015 19:41
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *23-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-17360-072215-EB-037
Collection Date: 7/22/2015 11:25 AM

Work Order: 15071177
Lab ID: 15071177-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**		Prep: SW3050B / 7/22/15			Analyst: **ML**
Lead	**3.3**		**0.040**	**1.7**	**mg/Kg-dry**	4	7/22/2015 19:47
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**14**		**0.025**	**0.050**	**% of sample**	1	7/22/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: GHD Services Inc.
Work Order: 15071177
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73865** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73865-73865** Units: **mg/Kg** Analysis Date: **7/22/2015 05:30 PM**
Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382880** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.25								

LCS Sample ID: **LCS-73865-73865** Units: **mg/Kg** Analysis Date: **7/22/2015 05:36 PM**
Client ID: Run ID: **ICPMS1_150722A** SeqNo: **3382881** Prep Date: **7/22/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4.962	0.25	5	0	99.2	80-120	0			

MS Sample ID: **15071177-01AMS** Units: **mg/Kg** Analysis Date: **7/22/2015 07:23 PM**
Client ID: **SO-17360-072215-EB-035** Run ID: **ICPMS1_150722A** SeqNo: **3382898** Prep Date: **7/22/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	9.051	1.3	6.427	2.162	107	75-125	0			

MSD Sample ID: **15071177-01AMSD** Units: **mg/Kg** Analysis Date: **7/22/2015 07:29 PM**
Client ID: **SO-17360-072215-EB-035** Run ID: **ICPMS1_150722A** SeqNo: **3382899** Prep Date: **7/22/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	9.734	1.3	6.329	2.162	120	75-125	9.051	7.27	25	

The following samples were analyzed in this batch:

15071177-01A	15071177-02A	15071177-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071177
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168209** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168209** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383565** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168209** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383564** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071178-01B DUP** Units: **% of sample** Analysis Date: **7/22/2015 03:33 PM**
Client ID: Run ID: **MOIST_150722C** SeqNo: **3383562** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.94	0.050	0	0	0		6.46	7.16	20	

The following samples were analyzed in this batch:

15071177-01A	15071177-02A	15071177-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071177
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168256** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168256** Units: **% of sample** Analysis Date: **7/23/2015 09:25 AM**
Client ID: Run ID: **MOIST_150723A** SeqNo: **3384331** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168256** Units: **% of sample** Analysis Date: **7/23/2015 09:25 AM**
Client ID: Run ID: **MOIST_150723A** SeqNo: **3384329** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071236-01A DUP** Units: **% of sample** Analysis Date: **7/23/2015 09:25 AM**
Client ID: Run ID: **MOIST_150723A** SeqNo: **3384322** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.71	0.050	0	0	0		13.93	1.59	20	

The following samples were analyzed in this batch: 15071177-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

ALS Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 17770

ALS Project Manager: Chad Whelton | ALS Work Order #: 1507177

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRAND	A	Pb - total
Work Order		Project Number	017360-T03Y15-02Y15	B	
Company Name	GHD	Bill To Company		C	
Send Report To	Earl Batenburg / Jean Quigley	Invoice Attn	Same	D	
Address	200 W. Allegan Ste. 300	Address		E	
City/State/Zip	Plainwell MI	City/State/Zip		F	
Phone	269.685.5181	Phone		G	
Fax	-	Fax		H	
e-Mail Address	earl.batenburg@ghd.com	e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-017360-070215-EB-035	7/22/15	1105	SO	none	1	X										
2	-036	↓	1115	↓	↓	↓	X										
3	-037	↓	1125	↓	↓	↓	X										
4																	
5																	
6																	
7			EB 7-22-15														
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Earl Batenburg

Shipment Method: drop@lab

Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	7-22-15	1145	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	7/22/15	1250	
Logged by (Laboratory): KW	Date: 7/22/15	Time: 1300	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp
	24.0°C

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **22-Jul-15 12:50**

Work Order: **15071177** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 22-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 23-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	24.0 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/22/2015 1:01:16 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

27-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071381**

Dear Rawa,

ALS Environmental received 3 samples on 24-Jul-2015 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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ALS Group USA, Corp

Date: 27-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071381**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071381-01	SO-017360-072415-EB-038	Soil		7/24/2015 09:15	7/24/2015 11:00	☐
15071381-02	SO-017360-072415-EB-039	Soil		7/24/2015 09:25	7/24/2015 11:00	☐
15071381-03	SO-017360-072415-EB-040	Soil		7/24/2015 09:00	7/24/2015 11:00	☐

ALS Group USA, Corp

Date: 27-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071381**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-038
Collection Date: 7/24/2015 09:15 AM

Work Order: 15071381
Lab ID: 15071381-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/24/15		Analyst: **ML**
Manganese	**350**		**0.66**	**4.0**	**mg/Kg-dry**	10	7/25/2015 06:06
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**8.0**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-039
Collection Date: 7/24/2015 09:25 AM

Work Order: 15071381
Lab ID: 15071381-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/24/15		Analyst: **ML**
Manganese	**2,200**		**6.2**	**38**	**mg/Kg-dry**	100	7/27/2015 15:18
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**4.7**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-040
Collection Date: 7/24/2015 09:00 AM

Work Order: 15071381
Lab ID: 15071381-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 7/24/15		Analyst: **RS**
2-Methylnaphthalene	U		2.4	6.9	µg/Kg-dry	1	7/24/2015 19:36
Acenaphthene	U		2.6	6.9	µg/Kg-dry	1	7/24/2015 19:36
Acenaphthylene	U		2.1	6.9	µg/Kg-dry	1	7/24/2015 19:36
Anthracene	U		3.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(a)anthracene	U		4.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(a)pyrene	U		1.4	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(b)fluoranthene	U		2.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(g,h,i)perylene	U		3.0	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(k)fluoranthene	U		4.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Chrysene	U		5.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Dibenzo(a,h)anthracene	U		2.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Fluoranthene	U		4.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Fluorene	U		3.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Indeno(1,2,3-cd)pyrene	U		4.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Naphthalene	U		1.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Phenanthrene	U		3.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Pyrene	U		5.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Surr: 2-Fluorobiphenyl	*73.3*			*12-100*	*%REC*	1	7/24/2015 19:36
Surr: 4-Terphenyl-d14	*80.4*			*25-137*	*%REC*	1	7/24/2015 19:36
Surr: Nitrobenzene-d5	*76.3*			*37-107*	*%REC*	1	7/24/2015 19:36
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**5.4**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: GHD Services Inc.

QC BATCH REPORT

Work Order: 15071381

Project: Former GRMP (17360)

Batch ID: **73982** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73982-73982** Units: **mg/Kg** Analysis Date: **7/25/2015 03:05 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386211** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	U	0.25								

LCS Sample ID: **LCS-73982-73982** Units: **mg/Kg** Analysis Date: **7/25/2015 03:11 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386212** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.85	0.25	5	0	97	80-120	0			

MS Sample ID: **15071220-03AMS** Units: **mg/Kg** Analysis Date: **7/25/2015 03:23 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386214** Prep Date: **7/24/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	209.1	1.5	7.669	353.7	-1880	75-125	0			SO

MSD Sample ID: **15071220-03AMSD** Units: **mg/Kg** Analysis Date: **7/25/2015 03:30 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386215** Prep Date: **7/24/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	467.3	1.5	7.68	353.7	1480	75-125	209.1	76.3	25	SRO

The following samples were analyzed in this batch:

15071381-01A	15071381-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73957-73957** Units: **µg/Kg** Analysis Date: **7/24/2015 01:29 PM**
Client ID: Run ID: **SVMS5_150724A** SeqNo: **3385831** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1179*	0	*1667*	0	*70.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1521*	0	*1667*	0	*91.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1227*	0	*1667*	0	*73.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73957-73957** Units: **µg/Kg** Analysis Date: **7/24/2015 01:52 PM**

Client ID: Run ID: **SVMS5_150724A** SeqNo: **3385833** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	466.7	6.7	666.7	0	70	45-105	0			
Acenaphthene	499	6.7	666.7	0	74.8	45-110	0			
Acenaphthylene	495.3	6.7	666.7	0	74.3	45-105	0			
Anthracene	652.3	6.7	666.7	0	97.8	55-105	0			
Benzo(a)anthracene	678.7	6.7	666.7	0	102	50-110	0			
Benzo(a)pyrene	663.7	6.7	666.7	0	99.5	50-110	0			
Benzo(b)fluoranthene	694.7	6.7	666.7	0	104	45-115	0			
Benzo(g,h,i)perylene	654.3	6.7	666.7	0	98.1	40-125	0			
Benzo(k)fluoranthene	652	6.7	666.7	0	97.8	45-115	0			
Chrysene	662.3	6.7	666.7	0	99.3	55-110	0			
Dibenzo(a,h)anthracene	630.7	6.7	666.7	0	94.6	40-125	0			
Fluoranthene	687.3	6.7	666.7	0	103	55-115	0			
Fluorene	559.7	6.7	666.7	0	83.9	50-110	0			
Indeno(1,2,3-cd)pyrene	645.3	6.7	666.7	0	96.8	40-120	0			
Naphthalene	338.3	6.7	666.7	0	50.7	40-105	0			
Phenanthrene	650.3	6.7	666.7	0	97.5	50-110	0			
Pyrene	682.7	6.7	666.7	0	102	45-125	0			
Surr: 2-Fluorobiphenyl	*1156*	0	*1667*	0	*69.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1643*	0	*1667*	0	*98.6*	*25-137*	0			
Surr: Nitrobenzene-d5	*1158*	0	*1667*	0	*69.5*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071315-01A MS** Units: **µg/Kg** Analysis Date: **7/24/2015 06:27 PM**
Client ID: Run ID: **SVMS5_150724A** SeqNo: **3386082** Prep Date: **7/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1391	260	1276	0	109	45-105	0			S
Acenaphthene	1187	260	1276	0	93	45-110	0			
Acenaphthylene	995.5	260	1276	0	78	45-105	0			
Anthracene	1136	260	1276	0	89	55-105	0			
Benzo(a)anthracene	1225	260	1276	0	96	50-110	0			
Benzo(a)pyrene	1583	260	1276	0	124	50-110	0			S
Benzo(b)fluoranthene	1302	260	1276	0	102	45-115	0			
Benzo(g,h,i)perylene	1481	260	1276	0	116	40-125	0			
Benzo(k)fluoranthene	1404	260	1276	0	110	45-115	0			
Chrysene	1251	260	1276	0	98	55-110	0			
Dibenzo(a,h)anthracene	1825	260	1276	0	143	40-125	0			S
Fluoranthene	1366	260	1276	0	107	55-115	0			
Fluorene	1264	260	1276	0	99	50-110	0			
Indeno(1,2,3-cd)pyrene	1634	260	1276	0	128	40-120	0			S
Naphthalene	625.4	260	1276	0	49	40-105	0			
Phenanthrene	1021	260	1276	0	80	50-110	0			
Pyrene	893.4	260	1276	0	70	45-125	0			
Surr: 2-Fluorobiphenyl	*3280*	0	*3191*	0	*103*	*12-100*	0			*S*
Surr: 4-Terphenyl-d14	*3293*	0	*3191*	0	*103*	*25-137*	0			
Surr: Nitrobenzene-d5	*3204*	0	*3191*	0	*100*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071381
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071315-01A MSD** Units: **µg/Kg** Analysis Date: **7/24/2015 06:50 PM**

Client ID: Run ID: **SVMS5_150724A** SeqNo: **3386083** Prep Date: **7/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1281	250	1256	0	102	45-105	1391	8.25	30	
Acenaphthene	1105	250	1256	0	88	45-110	1187	7.14	30	
Acenaphthylene	916.8	250	1256	0	73	45-105	995.5	8.23	30	
Anthracene	1155	250	1256	0	92	55-105	1136	1.7	30	
Benzo(a)anthracene	1231	250	1256	0	98	50-110	1225	0.448	30	
Benzo(a)pyrene	1520	250	1256	0	121	50-110	1583	4.06	30	S
Benzo(b)fluoranthene	1294	250	1256	0	103	45-115	1302	0.639	30	
Benzo(g,h,i)perylene	1469	250	1256	0	117	40-125	1481	0.756	30	
Benzo(k)fluoranthene	1394	250	1256	0	111	45-115	1404	0.709	30	
Chrysene	1243	250	1256	0	99	55-110	1251	0.599	30	
Dibenzo(a,h)anthracene	1821	250	1256	0	145	40-125	1825	0.225	30	S
Fluoranthene	1419	250	1256	0	113	55-115	1366	3.84	30	
Fluorene	1206	250	1256	0	96	50-110	1264	4.69	30	
Indeno(1,2,3-cd)pyrene	1595	250	1256	0	127	40-120	1634	2.4	30	S
Naphthalene	540	250	1256	0	43	40-105	625.4	14.6	30	
Phenanthrene	1093	250	1256	0	87	50-110	1021	6.77	30	
Pyrene	916.8	250	1256	0	73	45-125	893.4	2.58	30	
Surr: 2-Fluorobiphenyl	*3014*	0	*3140*	0	*96*	*12-100*	3280	*8.45*	*40*	
Surr: 4-Terphenyl-d14	*3240*	0	*3140*	0	*103*	*25-137*	3293	*1.61*	*40*	
Surr: Nitrobenzene-d5	*2989*	0	*3140*	0	*95.2*	*37-107*	3204	*6.93*	*40*	

The following samples were analyzed in this batch: 15071381-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071381
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168382** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168382** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387527** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168382** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387526** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071065-01B DUP** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387478** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	4.46	0.050	0	0	0		4.46	0	20	

DUP Sample ID: **15071337-07B DUP** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387509** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	21.44	0.050	0	0	0		22.11	3.08	20	

The following samples were analyzed in this batch:

15071381-01A	15071381-02A	15071381-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
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Chain of Custody Form

ALS Environmental

Page 1 of 1

COC ID: 17773

ALS Project Manager: Chad Whelton | ALS Work Order #: 1507381

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRWP - RALEIGH	A	PAHs
Work Order		Project Number	017360-T03415-02415	B	Mn - total
Company Name	GHD	Bill To Company		C	
Send Report To	Earl Baterbury / Jeni Quigley	Invoice Attn	Same	D	
Address	200 W. Allegan St. Ste. 300	Address		E	
City/State/Zip	Lansing MI 48933	City/State/Zip		F	
Phone	269.685.5181	Phone		G	
Fax		Fax		H	
e-Mail Address	earl.baterbury@ghd.com	e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-017360-072415-EB-038	7/24/15	915	SO	none	1		X									
2	-039		925					X									
3	-040		900				X										
4	EB 7-24-15																
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: E. Baterbury

Shipment Method: drop @ lab

Required Turnaround Time: (Check Box) ☐ Other ☒ 24 Hour ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	7-24-15	1100	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	07/24/15	1100	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
DFS	7/24/15	1130	

Notes:

Cooler ID	Cooler Temp
	2.1c

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_4$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **24-Jul-15 11:00**

Work Order: **15071381** Received by: **TBB**

Checklist completed by Diane Shaw (eSignature) 24-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 24-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.6 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/24/2015 11:22:48 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

27-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071381**

Dear Rawa,

ALS Environmental received 3 samples on 24-Jul-2015 11:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 27-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071381**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071381-01	SO-017360-072415-EB-038	Soil		7/24/2015 09:15	7/24/2015 11:00	☐
15071381-02	SO-017360-072415-EB-039	Soil		7/24/2015 09:25	7/24/2015 11:00	☐
15071381-03	SO-017360-072415-EB-040	Soil		7/24/2015 09:00	7/24/2015 11:00	☐

ALS Group USA, Corp

Date: 27-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071381**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-038
Collection Date: 7/24/2015 09:15 AM

Work Order: 15071381
Lab ID: 15071381-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/24/15		Analyst: **ML**
Manganese	**350**		**0.66**	**4.0**	**mg/Kg-dry**	10	7/25/2015 06:06
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**8.0**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-039
Collection Date: 7/24/2015 09:25 AM

Work Order: 15071381
Lab ID: 15071381-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/24/15		Analyst: **ML**
Manganese	**2,200**		**6.2**	**38**	**mg/Kg-dry**	100	7/27/2015 15:18
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**4.7**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072415-EB-040
Collection Date: 7/24/2015 09:00 AM

Work Order: 15071381
Lab ID: 15071381-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 7/24/15		Analyst: **RS**
2-Methylnaphthalene	U		2.4	6.9	µg/Kg-dry	1	7/24/2015 19:36
Acenaphthene	U		2.6	6.9	µg/Kg-dry	1	7/24/2015 19:36
Acenaphthylene	U		2.1	6.9	µg/Kg-dry	1	7/24/2015 19:36
Anthracene	U		3.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(a)anthracene	U		4.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(a)pyrene	U		1.4	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(b)fluoranthene	U		2.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(g,h,i)perylene	U		3.0	6.9	µg/Kg-dry	1	7/24/2015 19:36
Benzo(k)fluoranthene	U		4.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Chrysene	U		5.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Dibenzo(a,h)anthracene	U		2.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Fluoranthene	U		4.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Fluorene	U		3.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Indeno(1,2,3-cd)pyrene	U		4.3	6.9	µg/Kg-dry	1	7/24/2015 19:36
Naphthalene	U		1.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Phenanthrene	U		3.8	6.9	µg/Kg-dry	1	7/24/2015 19:36
Pyrene	U		5.2	6.9	µg/Kg-dry	1	7/24/2015 19:36
Surr: 2-Fluorobiphenyl	*73.3*			*12-100*	*%REC*	1	7/24/2015 19:36
Surr: 4-Terphenyl-d14	*80.4*			*25-137*	*%REC*	1	7/24/2015 19:36
Surr: Nitrobenzene-d5	*76.3*			*37-107*	*%REC*	1	7/24/2015 19:36
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**5.4**		**0.025**	**0.050**	**% of sample**	1	7/24/2015 16:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: GHD Services Inc.

QC BATCH REPORT

Work Order: 15071381

Project: Former GRMP (17360)

Batch ID: **73982** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73982-73982** Units: **mg/Kg** Analysis Date: **7/25/2015 03:05 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386211** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	U	0.25								

LCS Sample ID: **LCS-73982-73982** Units: **mg/Kg** Analysis Date: **7/25/2015 03:11 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386212** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.85	0.25	5	0	97	80-120	0			

MS Sample ID: **15071220-03AMS** Units: **mg/Kg** Analysis Date: **7/25/2015 03:23 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386214** Prep Date: **7/24/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	209.1	1.5	7.669	353.7	-1880	75-125	0			SO

MSD Sample ID: **15071220-03AMSD** Units: **mg/Kg** Analysis Date: **7/25/2015 03:30 AM**

Client ID: Run ID: **ICPMS1_150724A** SeqNo: **3386215** Prep Date: **7/24/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	467.3	1.5	7.68	353.7	1480	75-125	209.1	76.3	25	SRO

The following samples were analyzed in this batch:

15071381-01A	15071381-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73957-73957** Units: **µg/Kg** Analysis Date: **7/24/2015 01:29 PM**
Client ID: Run ID: **SVMS5_150724A** SeqNo: **3385831** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1179*	0	*1667*	0	*70.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1521*	0	*1667*	0	*91.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1227*	0	*1667*	0	*73.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73957-73957** Units: **µg/Kg** Analysis Date: **7/24/2015 01:52 PM**

Client ID: Run ID: **SVMS5_150724A** SeqNo: **3385833** Prep Date: **7/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	466.7	6.7	666.7	0	70	45-105	0			
Acenaphthene	499	6.7	666.7	0	74.8	45-110	0			
Acenaphthylene	495.3	6.7	666.7	0	74.3	45-105	0			
Anthracene	652.3	6.7	666.7	0	97.8	55-105	0			
Benzo(a)anthracene	678.7	6.7	666.7	0	102	50-110	0			
Benzo(a)pyrene	663.7	6.7	666.7	0	99.5	50-110	0			
Benzo(b)fluoranthene	694.7	6.7	666.7	0	104	45-115	0			
Benzo(g,h,i)perylene	654.3	6.7	666.7	0	98.1	40-125	0			
Benzo(k)fluoranthene	652	6.7	666.7	0	97.8	45-115	0			
Chrysene	662.3	6.7	666.7	0	99.3	55-110	0			
Dibenzo(a,h)anthracene	630.7	6.7	666.7	0	94.6	40-125	0			
Fluoranthene	687.3	6.7	666.7	0	103	55-115	0			
Fluorene	559.7	6.7	666.7	0	83.9	50-110	0			
Indeno(1,2,3-cd)pyrene	645.3	6.7	666.7	0	96.8	40-120	0			
Naphthalene	338.3	6.7	666.7	0	50.7	40-105	0			
Phenanthrene	650.3	6.7	666.7	0	97.5	50-110	0			
Pyrene	682.7	6.7	666.7	0	102	45-125	0			
Surr: 2-Fluorobiphenyl	*1156*	0	*1667*	0	*69.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1643*	0	*1667*	0	*98.6*	*25-137*	0			
Surr: Nitrobenzene-d5	*1158*	0	*1667*	0	*69.5*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **15071315-01A MS** Units: **µg/Kg** Analysis Date: **7/24/2015 06:27 PM**
Client ID: Run ID: **SVMS5_150724A** SeqNo: **3386082** Prep Date: **7/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1391	260	1276	0	109	45-105	0			S
Acenaphthene	1187	260	1276	0	93	45-110	0			
Acenaphthylene	995.5	260	1276	0	78	45-105	0			
Anthracene	1136	260	1276	0	89	55-105	0			
Benzo(a)anthracene	1225	260	1276	0	96	50-110	0			
Benzo(a)pyrene	1583	260	1276	0	124	50-110	0			S
Benzo(b)fluoranthene	1302	260	1276	0	102	45-115	0			
Benzo(g,h,i)perylene	1481	260	1276	0	116	40-125	0			
Benzo(k)fluoranthene	1404	260	1276	0	110	45-115	0			
Chrysene	1251	260	1276	0	98	55-110	0			
Dibenzo(a,h)anthracene	1825	260	1276	0	143	40-125	0			S
Fluoranthene	1366	260	1276	0	107	55-115	0			
Fluorene	1264	260	1276	0	99	50-110	0			
Indeno(1,2,3-cd)pyrene	1634	260	1276	0	128	40-120	0			S
Naphthalene	625.4	260	1276	0	49	40-105	0			
Phenanthrene	1021	260	1276	0	80	50-110	0			
Pyrene	893.4	260	1276	0	70	45-125	0			
Surr: 2-Fluorobiphenyl	*3280*	0	*3191*	0	*103*	*12-100*	0			*S*
Surr: 4-Terphenyl-d14	*3293*	0	*3191*	0	*103*	*25-137*	0			
Surr: Nitrobenzene-d5	*3204*	0	*3191*	0	*100*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071381
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73957** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **15071315-01A MSD** Units: **µg/Kg** Analysis Date: **7/24/2015 06:50 PM**

Client ID: Run ID: **SVMS5_150724A** SeqNo: **3386083** Prep Date: **7/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1281	250	1256	0	102	45-105	1391	8.25	30	
Acenaphthene	1105	250	1256	0	88	45-110	1187	7.14	30	
Acenaphthylene	916.8	250	1256	0	73	45-105	995.5	8.23	30	
Anthracene	1155	250	1256	0	92	55-105	1136	1.7	30	
Benzo(a)anthracene	1231	250	1256	0	98	50-110	1225	0.448	30	
Benzo(a)pyrene	1520	250	1256	0	121	50-110	1583	4.06	30	S
Benzo(b)fluoranthene	1294	250	1256	0	103	45-115	1302	0.639	30	
Benzo(g,h,i)perylene	1469	250	1256	0	117	40-125	1481	0.756	30	
Benzo(k)fluoranthene	1394	250	1256	0	111	45-115	1404	0.709	30	
Chrysene	1243	250	1256	0	99	55-110	1251	0.599	30	
Dibenzo(a,h)anthracene	1821	250	1256	0	145	40-125	1825	0.225	30	S
Fluoranthene	1419	250	1256	0	113	55-115	1366	3.84	30	
Fluorene	1206	250	1256	0	96	50-110	1264	4.69	30	
Indeno(1,2,3-cd)pyrene	1595	250	1256	0	127	40-120	1634	2.4	30	S
Naphthalene	540	250	1256	0	43	40-105	625.4	14.6	30	
Phenanthrene	1093	250	1256	0	87	50-110	1021	6.77	30	
Pyrene	916.8	250	1256	0	73	45-125	893.4	2.58	30	
Surr: 2-Fluorobiphenyl	*3014*	0	*3140*	0	*96*	*12-100*	3280	*8.45*	*40*	
Surr: 4-Terphenyl-d14	*3240*	0	*3140*	0	*103*	*25-137*	3293	*1.61*	*40*	
Surr: Nitrobenzene-d5	*2989*	0	*3140*	0	*95.2*	*37-107*	3204	*6.93*	*40*	

The following samples were analyzed in this batch: 15071381-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071381
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168382** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168382** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387527** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168382** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387526** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071065-01B DUP** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387478** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	4.46	0.050	0	0	0		4.46	0	20	

DUP Sample ID: **15071337-07B DUP** Units: **% of sample** Analysis Date: **7/24/2015 04:28 PM**
Client ID: Run ID: **MOIST_150724A** SeqNo: **3387509** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	21.44	0.050	0	0	0		22.11	3.08	20	

The following samples were analyzed in this batch:

15071381-01A	15071381-02A	15071381-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 119642

ALS Project Manager: TL | ALS Work Order #: 1507581

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	OU-6 Ford Saline Plant	A	VOCs
Work Order		Project Number	E201446	B	SVOCs
Company Name	Tetra Tech	Bill To Company	Tetra Tech	C	Metals (As and Cr)
Send Report To	Brandon Kinter	Invoice Attn	Accounts Payable	D	Moisture
Address	710 Avis Drive	Address	710 Avis Drive	E	
				F	
City/State/Zip	Ann Arbor, MI 48108	City/State/Zip	Ann Arbor, MI 48108	G	
Phone	(734) 213-2204	Phone	(734) 213-2204	H	
Fax	(734) 213-5008	Fax	(734) 213-5008	I	
e-Mail Address	Brandon.Kinter@tetratech.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	GP-15-17-4.5'	7/2/15	8:40	Soil	7	3	X	X	X								
2	GP-15-17-12'	7/2/15	8:45	Soil	7	3	X	X	X								
3	GP-15-18-3.5'	7/2/15	9:45	Soil	7	3	X	X	X								
4	GP-15-19-6'	7/2/15	10:55	Soil	7	3	X	X	X								
5	Trip Blank	—	—	—	7	1	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Sean Bigby

Shipment Method:

Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Brandon Kinter — Date: 7-7-15 — Time: 1340

Relinquished by: — Date: 7-7-15 — Time: 1800

Received by: — Date: 7/8/15 — Time: 0800

Logged by (Laboratory): — Date: 7-8 — Time: 9:10

Checked by (Laboratory):

Notes:

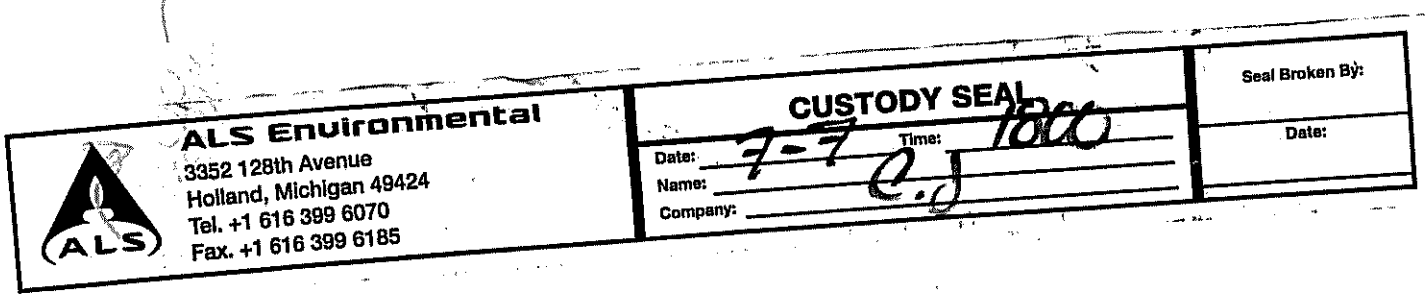
Cooler ID	Cooler Temp.
	0.4°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SW846/CLP ☐ TRRP CheckList ☐ TRRP Level IV ☐ Other

Preservative Key: 1-HCL 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-None

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

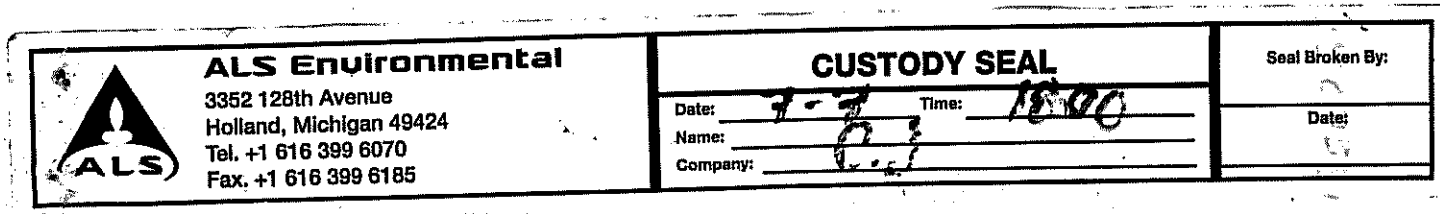
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ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date: 7-7 Time: 1800
Name: C.J
Company:

Seal Broken By:
Date:



ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date: 7-7 Time: 1800
Name: C.J
Company:

Seal Broken By:
Date:

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **24-Jul-15 11:00**

Work Order: **15071381** Received by: **TBB**

Checklist completed by Diane Shaw (eSignature) 24-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 24-Jul-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.6 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/24/2015 11:22:48 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

30-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071516**

Dear Rawa,

ALS Environmental received 3 samples on 27-Jul-2015 04:15 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 30-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071516**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071516-01	SO-017360-072715-EB-041	Soil		7/27/2015 14:55	7/27/2015 16:15	☐
15071516-02	SO-017360-072715-EB-042	Soil		7/27/2015 15:00	7/27/2015 16:15	☐
15071516-03	SO-017360-072715-EB-043	Soil		7/27/2015 15:05	7/27/2015 16:15	☐

ALS Group USA, Corp

Date: 30-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071516**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: *30-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072715-EB-041
Collection Date: 7/27/2015 02:55 PM

Work Order: 15071516
Lab ID: 15071516-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 7/28/15		Analyst: **RS**
2-Methylnaphthalene	**87**		**25**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Acenaphthene	**370**		**27**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Acenaphthylene	U		22	72	µg/Kg-dry	10	7/28/2015 20:07
Anthracene	**980**		**35**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Benzo(a)anthracene	**2,100**		**44**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Benzo(a)pyrene	**1,800**		**15**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Benzo(b)fluoranthene	**2,600**		**25**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Benzo(g,h,i)perylene	**2,400**		**32**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Benzo(k)fluoranthene	**980**		**45**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Chrysene	**2,000**		**61**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Dibenzo(a,h)anthracene	**510**		**24**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Fluoranthene	**4,300**		**44**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Fluorene	**360**		**40**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Indeno(1,2,3-cd)pyrene	**1,800**		**45**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Naphthalene	U		19	72	µg/Kg-dry	10	7/28/2015 20:07
Phenanthrene	**3,200**		**40**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Pyrene	**3,100**		**55**	**72**	**µg/Kg-dry**	10	7/28/2015 20:07
Surr: 2-Fluorobiphenyl	*80.8*			*12-100*	*%REC*	10	7/28/2015 20:07
Surr: 4-Terphenyl-d14	*78.6*			*25-137*	*%REC*	10	7/28/2015 20:07
Surr: Nitrobenzene-d5	*75.2*			*37-107*	*%REC*	10	7/28/2015 20:07
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**7.9**		**0.025**	**0.050**	**% of sample**	1	7/28/2015 13:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072715-EB-042
Collection Date: 7/27/2015 03:00 PM

Work Order: 15071516
Lab ID: 15071516-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 7/28/15		Analyst: **RS**
2-Methylnaphthalene	**7.1**		**2.5**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Acenaphthene	U		2.7	7.1	µg/Kg-dry	1	7/28/2015 20:31
Acenaphthylene	**2.8**	J	**2.2**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Anthracene	**16**		**3.4**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Benzo(a)anthracene	**85**		**4.3**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Benzo(a)pyrene	**100**		**1.5**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Benzo(b)fluoranthene	**180**		**2.4**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Benzo(g,h,i)perylene	**97**		**3.1**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Benzo(k)fluoranthene	**59**		**4.4**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Chrysene	**120**		**6.0**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Dibenzo(a,h)anthracene	**39**		**2.3**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Fluoranthene	**180**		**4.3**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Fluorene	**4.6**	J	**3.9**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Indeno(1,2,3-cd)pyrene	**96**		**4.4**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Naphthalene	U		1.8	7.1	µg/Kg-dry	1	7/28/2015 20:31
Phenanthrene	**43**		**3.9**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Pyrene	**130**		**5.4**	**7.1**	**µg/Kg-dry**	1	7/28/2015 20:31
Surr: 2-Fluorobiphenyl	*80.8*			*12-100*	*%REC*	1	7/28/2015 20:31
Surr: 4-Terphenyl-d14	*93.5*			*25-137*	*%REC*	1	7/28/2015 20:31
Surr: Nitrobenzene-d5	*69.4*			*37-107*	*%REC*	1	7/28/2015 20:31
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**8.0**		**0.025**	**0.050**	**% of sample**	1	7/28/2015 13:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-072715-EB-043
Collection Date: 7/27/2015 03:05 PM

Work Order: 15071516
Lab ID: 15071516-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 7/28/15		Analyst: **RS**
2-Methylnaphthalene	**7.1**	J	**2.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Acenaphthene	**3.0**	J	**2.8**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Acenaphthylene	**8.7**		**2.3**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Anthracene	**25**		**3.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Benzo(a)anthracene	**130**		**4.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Benzo(a)pyrene	**140**		**1.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Benzo(b)fluoranthene	**240**		**2.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Benzo(g,h,i)perylene	**130**		**3.3**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Benzo(k)fluoranthene	**78**		**4.7**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Chrysene	**160**		**6.3**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Dibenzo(a,h)anthracene	**47**		**2.4**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Fluoranthene	**240**		**4.6**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Fluorene	**5.6**	J	**4.2**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Indeno(1,2,3-cd)pyrene	**130**		**4.7**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Naphthalene	U		2.0	7.5	µg/Kg-dry	1	7/28/2015 20:55
Phenanthrene	**73**		**4.2**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Pyrene	**180**		**5.7**	**7.5**	**µg/Kg-dry**	1	7/28/2015 20:55
Surr: 2-Fluorobiphenyl	*79.8*			*12-100*	*%REC*	1	7/28/2015 20:55
Surr: 4-Terphenyl-d14	*91.9*			*25-137*	*%REC*	1	7/28/2015 20:55
Surr: Nitrobenzene-d5	*70.4*			*37-107*	*%REC*	1	7/28/2015 20:55
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	7/28/2015 13:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **74088** Instrument ID **SVMS4** Method: **SW846 8270D**

MBLK	Sample ID: **SBLKS1-74088-74088**				Units: **µg/Kg**			Analysis Date: **7/28/2015 05:24 PM**		
Client ID:	Run ID: **SVMS4_150728A**				SeqNo: **3392503**		Prep Date: **7/28/2015**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1027*	0	*1667*	0	*61.6*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1601*	0	*1667*	0	*96.1*	*25-137*	0			
Surr: Nitrobenzene-d5	*1054*	0	*1667*	0	*63.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **74088** Instrument ID **SVMS4** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-74088-74088** Units: **µg/Kg** Analysis Date: **7/29/2015 03:11 PM**
Client ID: Run ID: **SVMS8_150729A** SeqNo: **3394774** Prep Date: **7/28/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	488.7	6.7	666.7	0	73.3	45-105	0			
Acenaphthene	540.7	6.7	666.7	0	81.1	45-110	0			
Acenaphthylene	530.3	6.7	666.7	0	79.5	45-105	0			
Anthracene	635.3	6.7	666.7	0	95.3	55-105	0			
Benzo(a)anthracene	648	6.7	666.7	0	97.2	50-110	0			
Benzo(a)pyrene	674.3	6.7	666.7	0	101	50-110	0			
Benzo(b)fluoranthene	690	6.7	666.7	0	103	45-115	0			
Benzo(g,h,i)perylene	627.3	6.7	666.7	0	94.1	40-125	0			
Benzo(k)fluoranthene	720.3	6.7	666.7	0	108	45-115	0			
Chrysene	691.3	6.7	666.7	0	104	55-110	0			
Dibenzo(a,h)anthracene	644.7	6.7	666.7	0	96.7	40-125	0			
Fluoranthene	625.7	6.7	666.7	0	93.8	55-115	0			
Fluorene	546.3	6.7	666.7	0	81.9	50-110	0			
Indeno(1,2,3-cd)pyrene	634.7	6.7	666.7	0	95.2	40-120	0			
Naphthalene	530	6.7	666.7	0	79.5	40-105	0			
Phenanthrene	615.3	6.7	666.7	0	92.3	50-110	0			
Pyrene	686.7	6.7	666.7	0	103	45-125	0			
Surr: 2-Fluorobiphenyl	*1133*	0	*1667*	0	*68*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1391*	0	*1667*	0	*83.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*1189*	0	*1667*	0	*71.4*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **74088** Instrument ID **SVMS4** Method: **SW846 8270D**

MS Sample ID: **15071424-13B MS** Units: **µg/Kg** Analysis Date: **7/28/2015 08:46 PM**
Client ID: Run ID: **SVMS4_150728A** SeqNo: **3392511** Prep Date: **7/28/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	756.7	13	1328	0	57	45-105	0			
Acenaphthene	811.2	13	1328	0	61.1	45-110	0			
Acenaphthylene	904.1	13	1328	0	68.1	45-105	0			
Anthracene	1034	13	1328	19.84	76.4	55-105	0			
Benzo(a)anthracene	1197	13	1328	75.41	84.5	50-110	0			
Benzo(a)pyrene	1178	13	1328	63.5	83.9	50-110	0			
Benzo(b)fluoranthene	1237	13	1328	85	86.8	45-115	0			
Benzo(g,h,i)perylene	1087	13	1328	39.03	78.9	40-125	0			
Benzo(k)fluoranthene	1058	13	1328	31.75	77.3	45-115	0			
Chrysene	1101	13	1328	70.78	77.6	55-110	0			
Dibenzo(a,h)anthracene	1120	13	1328	0	84.3	40-125	0			
Fluoranthene	1244	13	1328	162.7	81.4	55-115	0			
Fluorene	967.1	13	1328	0	72.8	50-110	0			
Indeno(1,2,3-cd)pyrene	1185	13	1328	46.97	85.7	40-120	0			
Naphthalene	708.3	13	1328	0	53.3	40-105	0			
Phenanthrene	1039	13	1328	63.17	73.5	50-110	0			
Pyrene	1166	13	1328	155.8	76.1	45-125	0			
Surr: 2-Fluorobiphenyl	*1881*	0	*3319*	0	*56.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2453*	0	*3319*	0	*73.9*	*25-137*	0			
Surr: Nitrobenzene-d5	*1681*	0	*3319*	0	*50.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071516
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **74088** Instrument ID **SVMS4** Method: **SW846 8270D**

MSD Sample ID: **15071424-13B MSD** Units: **µg/Kg** Analysis Date: **7/28/2015 09:13 PM**

Client ID: Run ID: **SVMS4_150728A** SeqNo: **3392513** Prep Date: **7/28/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	769.3	13	1328	0	57.9	45-105	756.7	1.65	30	
Acenaphthene	839	13	1328	0	63.2	45-110	811.2	3.37	30	
Acenaphthylene	915.3	13	1328	0	68.9	45-105	904.1	1.23	30	
Anthracene	1019	13	1328	19.84	75.3	55-105	1034	1.49	30	
Benzo(a)anthracene	1219	13	1328	75.41	86.2	50-110	1197	1.86	30	
Benzo(a)pyrene	1238	13	1328	63.5	88.5	50-110	1178	4.99	30	
Benzo(b)fluoranthene	1276	13	1328	85	89.7	45-115	1237	3.06	30	
Benzo(g,h,i)perylene	1145	13	1328	39.03	83.3	40-125	1087	5.23	30	
Benzo(k)fluoranthene	1138	13	1328	31.75	83.4	45-115	1058	7.31	30	
Chrysene	1174	13	1328	70.78	83.1	55-110	1101	6.41	30	
Dibenzo(a,h)anthracene	1160	13	1328	0	87.3	40-125	1120	3.49	30	
Fluoranthene	1209	13	1328	162.7	78.8	55-115	1244	2.88	30	
Fluorene	976.4	13	1328	0	73.5	50-110	967.1	0.95	30	
Indeno(1,2,3-cd)pyrene	1253	13	1328	46.97	90.9	40-120	1185	5.6	30	
Naphthalene	730.1	13	1328	0	55	40-105	708.3	3.04	30	
Phenanthrene	1012	13	1328	63.17	71.4	50-110	1039	2.66	30	
Pyrene	1315	13	1328	155.8	87.3	45-125	1166	12	30	
Surr: 2-Fluorobiphenyl	*1989*	0	*3319*	0	*59.9*	*12-100*	1881	*5.55*	*40*	
Surr: 4-Terphenyl-d14	*2661*	0	*3319*	0	*80.2*	*25-137*	2453	*8.14*	*40*	
Surr: Nitrobenzene-d5	*1934*	0	*3319*	0	*58.3*	*37-107*	1681	*14*	*40*	

The following samples were analyzed in this batch: 15071516-01A 15071516-02A 15071516-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071516
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168553** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168553** Units: **% of sample** Analysis Date: **7/28/2015 01:02 PM**
Client ID: Run ID: **MOIST_150728A** SeqNo: **3391618** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168553** Units: **% of sample** Analysis Date: **7/28/2015 01:02 PM**
Client ID: Run ID: **MOIST_150728A** SeqNo: **3391617** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071336-01B DUP** Units: **% of sample** Analysis Date: **7/28/2015 01:02 PM**
Client ID: Run ID: **MOIST_150728A** SeqNo: **3391573** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.77	0.050	0	0	0		9.38	6.72	20	

DUP Sample ID: **15071492-01A DUP** Units: **% of sample** Analysis Date: **7/28/2015 01:02 PM**
Client ID: Run ID: **MOIST_150728A** SeqNo: **3391585** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.53	0.050	0	0	0		7.59	15	20	

The following samples were analyzed in this batch:

15071516-01A	15071516-02A	15071516-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

ALS Environmental

Chain of Custody Form

Page 1 of 2

COC ID: 17774

ALS Project Manager: Chad McLellan | ALS Work Order #: 1507156

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRMP	A	PAHs
Work Order		Project Number	017360-T03/15-0715	B	
Company Name	GHD	Bill To Company		C	
Send Report To	Earl Batenburg / Jeri Quigley	Invoice Attn	Same	D	
Address	200 W. Allegan / Ste. 300	Address		E	
				F	
City/State/Zip	Plainwell, MI 49080	City/State/Zip		G	
Phone	269.685.5191	Phone		H	
Fax		Fax		I	
e-Mail Address	earl.batenburg@ghd.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-017360-0715-EB-041	7/27/15	1455	SO	none	1	X										
2	-042		1500				X										
3	-043		1505				X										
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Earl Batenburg

Shipment Method: drop@lab

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☒ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date: Wed 7/29/15 pm

Relinquished by:	Date:	Time:	Received by:
	7-27-15	1530	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	7/27/15	1615	
Logged by (Laboratory): DFS	Date: 7/27/15	Time: 1638	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp
	4.0c

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **27-Jul-15 16:15**

Work Order: **15071516** Received by: **CW**

Checklist completed by Diane Shaw eSignature 27-Jul-15 Date Reviewed by: Chad Whelton eSignature 27-Jul-15 Date

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/27/2015 4:37:01 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

30-Oct-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15071580**

Dear Rawa,

ALS Environmental received 12 samples on 28-Jul-2015 03:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 30-Oct-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **15071580**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15071580-01	SD-017360-072815-EB-010A	Soil		7/28/2015 13:00	7/28/2015 15:00	☐
15071580-02	SD-017360-072815-EB-011A	Soil		7/28/2015 13:05	7/28/2015 15:00	☐
15071580-03	SD-017360-072815-EB-012A	Soil		7/28/2015 13:15	7/28/2015 15:00	☐
15071580-04	SD-017360-072815-EB-013A	Soil		7/28/2015 13:20	7/28/2015 15:00	☐
15071580-05	SD-017360-072815-EB-014A	Soil		7/28/2015 13:30	7/28/2015 15:00	☐
15071580-06	SD-017360-072815-EB-015A	Soil		7/28/2015 13:25	7/28/2015 15:00	☐
15071580-07	SD-017360-072815-EB-016A	Soil		7/28/2015 13:20	7/28/2015 15:00	☐
15071580-08	SD-017360-072815-EB-017A	Soil		7/28/2015 13:30	7/28/2015 15:00	☐
15071580-09	SD-017360-072815-EB-018A	Soil		7/28/2015 13:40	7/28/2015 15:00	☐
15071580-10	SD-017360-072815-EB-019A	Soil		7/28/2015 13:50	7/28/2015 15:00	☐
15071580-11	SD-017360-072815-EB-020A	Soil		7/28/2015 13:55	7/28/2015 15:00	☐
15071580-12	SD-017360-072815-EB-021A	Soil		7/28/2015 14:00	7/28/2015 15:00	☐

ALS Group USA, Corp

Date: 30-Oct-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **15071580**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-010A
Collection Date: 7/28/2015 01:00 PM

Work Order: 15071580
Lab ID: 15071580-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		11	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1221	U		11	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1232	U		11	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1242	U		11	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1248	U		11	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1254	U		14	92	µg/Kg-dry	1	7/29/2015 12:57
Aroclor 1260	**170**		**14**	**92**	**µg/Kg-dry**	1	7/29/2015 12:57
Surr: Decachlorobiphenyl	*72.1*			*40-140*	*%REC*	1	7/29/2015 12:57
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-011A
Collection Date: 7/28/2015 01:05 PM

Work Order: 15071580
Lab ID: 15071580-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		11	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1221	U		11	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1232	U		11	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1242	U		11	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1248	U		11	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1254	U		14	92	µg/Kg-dry	1	7/29/2015 13:14
Aroclor 1260	**260**		**14**	**92**	**µg/Kg-dry**	1	7/29/2015 13:14
Surr: Decachlorobiphenyl	*82.1*			*40-140*	*%REC*	1	7/29/2015 13:14
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-012A
Collection Date: 7/28/2015 01:15 PM

Work Order: 15071580
Lab ID: 15071580-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		11	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1221	U		11	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1232	U		11	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1242	U		11	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1248	U		11	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1254	U		13	91	µg/Kg-dry	1	7/29/2015 13:30
Aroclor 1260	U		13	91	µg/Kg-dry	1	7/29/2015 13:30
Surr: Decachlorobiphenyl	*79.1*			*40-140*	*%REC*	1	7/29/2015 13:30
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-013A
Collection Date: 7/28/2015 01:20 PM

Work Order: 15071580
Lab ID: 15071580-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		10	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1221	U		10	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1232	U		10	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1242	U		10	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1248	U		10	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1254	U		13	87	µg/Kg-dry	1	7/29/2015 14:19
Aroclor 1260	**31**	J	**13**	**87**	**µg/Kg-dry**	1	7/29/2015 14:19
Surr: Decachlorobiphenyl	*74.1*			*40-140*	*%REC*	1	7/29/2015 14:19
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**8.7**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-014A
Collection Date: 7/28/2015 01:30 PM

Work Order: 15071580
Lab ID: 15071580-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		10	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1221	U		10	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1232	U		10	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1242	U		10	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1248	U		10	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1254	U		13	89	µg/Kg-dry	1	7/29/2015 15:08
Aroclor 1260	**1,100**		**13**	**89**	**µg/Kg-dry**	1	7/29/2015 15:08
Surr: Decachlorobiphenyl	*76.1*			*40-140*	*%REC*	1	7/29/2015 15:08
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**10**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-015A
Collection Date: 7/28/2015 01:25 PM

Work Order: 15071580
Lab ID: 15071580-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		10	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1221	U		10	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1232	U		10	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1242	U		10	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1248	U		10	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1254	U		13	88	µg/Kg-dry	1	7/29/2015 15:25
Aroclor 1260	**1,500**		**13**	**88**	**µg/Kg-dry**	1	7/29/2015 15:25
Surr: Decachlorobiphenyl	*77.1*			*40-140*	*%REC*	1	7/29/2015 15:25
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**8.5**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-016A
Collection Date: 7/28/2015 01:20 PM

Work Order: 15071580
Lab ID: 15071580-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		10	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1221	U		10	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1232	U		10	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1242	U		10	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1248	U		10	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1254	U		13	89	µg/Kg-dry	1	7/29/2015 15:41
Aroclor 1260	U		13	89	µg/Kg-dry	1	7/29/2015 15:41
Surr: Decachlorobiphenyl	*76.1*			*40-140*	*%REC*	1	7/29/2015 15:41
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**9.2**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-017A
Collection Date: 7/28/2015 01:30 PM

Work Order: 15071580
Lab ID: 15071580-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		11	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1221	U		11	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1232	U		11	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1242	U		11	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1248	U		11	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1254	U		14	92	µg/Kg-dry	1	7/29/2015 15:57
Aroclor 1260	**810**		**14**	**92**	**µg/Kg-dry**	1	7/29/2015 15:57
Surr: Decachlorobiphenyl	*64.1*			*40-140*	*%REC*	1	7/29/2015 15:57
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**9.9**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-018A
Collection Date: 7/28/2015 01:40 PM

Work Order: 15071580
Lab ID: 15071580-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		9.9	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1221	U		9.9	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1232	U		9.9	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1242	U		9.9	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1248	U		9.9	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1254	U		12	84	µg/Kg-dry	1	7/29/2015 16:14
Aroclor 1260	**5,900**		**120**	**840**	**µg/Kg-dry**	10	7/29/2015 17:19
Surr: Decachlorobiphenyl	*70.1*			*40-140*	*%REC*	1	7/29/2015 16:14
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**4.6**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-019A
Collection Date: 7/28/2015 01:50 PM

Work Order: 15071580
Lab ID: 15071580-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		9.4	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1221	U		9.4	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1232	U		9.4	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1242	U		9.4	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1248	U		9.4	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1254	U		12	80	µg/Kg-dry	1	7/29/2015 16:30
Aroclor 1260	**480**		**12**	**80**	**µg/Kg-dry**	1	7/29/2015 16:30
Surr: Decachlorobiphenyl	*70.1*			*40-140*	*%REC*	1	7/29/2015 16:30
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**1.7**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-020A
Collection Date: 7/28/2015 01:55 PM

Work Order: 15071580
Lab ID: 15071580-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		9.6	81	µg/Kg-dry	1	7/29/2015 16:47
Aroclor 1221	U		9.6	81	µg/Kg-dry	1	7/29/2015 16:47
Aroclor 1232	U		9.6	81	µg/Kg-dry	1	7/29/2015 16:47
Aroclor 1242	U		9.6	81	µg/Kg-dry	1	7/29/2015 16:47
Aroclor 1248	U		9.6	81	µg/Kg-dry	1	7/29/2015 16:47
Aroclor 1254	**1,600**		**12**	**81**	**µg/Kg-dry**	1	7/29/2015 16:47
Aroclor 1260	U		12	81	µg/Kg-dry	1	7/29/2015 16:47
Surr: Decachlorobiphenyl	*66.1*			*40-140*	*%REC*	1	7/29/2015 16:47
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**2.5**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Oct-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SD-017360-072815-EB-021A
Collection Date: 7/28/2015 02:00 PM

Work Order: 15071580
Lab ID: 15071580-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3550 / 7/29/15		Analyst: **BLM**
Aroclor 1016	U		10	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1221	U		10	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1232	U		10	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1242	U		10	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1248	U		10	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1254	U		13	85	µg/Kg-dry	1	7/29/2015 17:03
Aroclor 1260	**6,000**		**130**	**850**	**µg/Kg-dry**	10	7/29/2015 18:25
Surr: Decachlorobiphenyl	*67.1*			*40-140*	*%REC*	1	7/29/2015 17:03
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**1.8**		**0.025**	**0.050**	**% of sample**	1	7/29/2015 16:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Oct-15

Client: GHD Services Inc.

Work Order: 15071580

Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **74140** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **PBLKS1-74140-74140** Units: **µg/Kg** Analysis Date: **7/29/2015 12:24 PM**

Client ID: Run ID: **GC14_150729A** SeqNo: **3394333** Prep Date: **7/29/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	83								
Aroclor 1221	U	83								
Aroclor 1232	U	83								
Aroclor 1242	U	83								
Aroclor 1248	U	83								
Aroclor 1254	U	83								
Aroclor 1260	U	83								
Surr: Decachlorobiphenyl	*28.67*	0	*33.3*	0	*86.1*	*40-140*	0			

LCS Sample ID: **PLCSS1-74140-74140** Units: **µg/Kg** Analysis Date: **7/29/2015 12:41 PM**

Client ID: Run ID: **GC14_150729A** SeqNo: **3394338** Prep Date: **7/29/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	918.3	83	833	0	110	50-130	0			
Aroclor 1260	871.7	83	833	0	105	50-130	0			
Surr: Decachlorobiphenyl	*28.67*	0	*33.3*	0	*86.1*	*40-140*	0			

MS Sample ID: **15071580-03A MS** Units: **µg/Kg** Analysis Date: **7/29/2015 01:46 PM**

Client ID: **SD-017360-072815-EB-012A** Run ID: **GC14_150729A** SeqNo: **3394352** Prep Date: **7/29/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	878.7	80	800	0	110	40-140	0			
Aroclor 1260	784.9	80	800	0	98.1	40-140	0			
Surr: Decachlorobiphenyl	*24.65*	0	*31.98*	0	*77.1*	*40-140*	0			

MSD Sample ID: **15071580-03A MSD** Units: **µg/Kg** Analysis Date: **7/29/2015 02:03 PM**

Client ID: **SD-017360-072815-EB-012A** Run ID: **GC14_150729A** SeqNo: **3394355** Prep Date: **7/29/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	854.6	82	821.7	0	104	40-140	878.7	2.79	50	
Aroclor 1260	750.4	82	821.7	0	91.3	40-140	784.9	4.5	50	
Surr: Decachlorobiphenyl	*24.66*	0	*32.85*	0	*75.1*	*40-140*	24.65	*0.0481*	*50*	

The following samples were analyzed in this batch:

15071580-01A	15071580-02A	15071580-03A
15071580-04A	15071580-05A	15071580-06A
15071580-07A	15071580-08A	15071580-09A
15071580-10A	15071580-11A	15071580-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 15071580
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R168639** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R168639** Units: **% of sample** Analysis Date: **7/29/2015 04:03 PM**
Client ID: Run ID: **MOIST_150729A** SeqNo: **3394293** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R168639** Units: **% of sample** Analysis Date: **7/29/2015 04:03 PM**
Client ID: Run ID: **MOIST_150729A** SeqNo: **3394289** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071580-01A DUP** Units: **% of sample** Analysis Date: **7/29/2015 04:03 PM**
Client ID: **SD-017360-072815-EB-010A** Run ID: **MOIST_150729A** SeqNo: **3394250** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	10.69	0.050	0	0	0		10.75	0.56	20	

DUP Sample ID: **15071580-11A DUP** Units: **% of sample** Analysis Date: **7/29/2015 04:03 PM**
Client ID: **SD-017360-072815-EB-020A** Run ID: **MOIST_150729A** SeqNo: **3394280** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.22	0.050	0	0	0		2.49	11.5	20	

The following samples were analyzed in this batch:

15071580-01A	15071580-02A	15071580-03A
15071580-04A	15071580-05A	15071580-06A
15071580-07A	15071580-08A	15071580-09A
15071580-10A	15071580-11A	15071580-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

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Chain of Custody Form

Page 1 of 2

COC ID: 17775

ALS Project Manager: Chad Whelton | ALS Work Order #: 1507580

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRMP	A	PCBs
Work Order		Project Number	017360-703415-02 415	B	
Company Name	GHD	Bill To Company		C	
Send Report To	Rawa Fleisher, Earl	Invoice Attn		D	
Address	200 W. Michigan Ste 300 Plainwell MI 49080	Address		E	
City/State/Zip		City/State/Zip		F	
Phone	269-685-5181	Phone		G	
Fax		Fax		H	
e-Mail Address	earl.batenburg@ghd.com	e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SD-017360-072815-EB-010A	7/28/15	1300	SD		1	X										
2	-011A		1305			1											
3	-012A		1315			1											
4	-013A		1320			1											
5	-014A		1330			1											
6	-015A		1325			1											
7	-016A		1320			1											
8	-017A		1330			1											
9	-018A		1340			1											
10	-019A		1350			2			MS/MSD								

Sampler(s) Please Print & Sign: Jodie Derbyshire + Earl Batenburg

Shipment Method: drop off

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour ☐ Other

Results Due Date:

Relinquished by: | Date: 7/28/15 | Time: 1500 | Received by:

Relinquished by: | Date: | Time: | Received by (Laboratory):

Logged by (Laboratory): | Date: 15:20 | Time: | Checked by (Laboratory): | 6.0°C

Notes:

Cooler ID	Cooler Temp

QC Package: (Check One Box Below)
- ☒ Level II Std QC
- ☒ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Environmental

Chain of Custody Form

COC ID: 17776

ALS Project Manager: | ALS Work Order #: 1507158

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	017360-T03915-02015 Former GRMP	A	PCBs
Work Order		Project Number		B	
Company Name	GHD	Bill To Company	GHD	C	
Send Report To	Rawa Fiebler & Earl	Invoice Attn		D	
Address	200 Alg Batenburg Suite 300	Address		E	
				F	
City/State/Zip	Plainwell, MI 49080	City/State/Zip		G	
Phone	269-685-5181	Phone		H	
Fax		Fax		I	
e-Mail Address	earl.batenburg@ghd.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SD-017360-872875-EB-020A	7/28/15	1355	SD		1	X										
2	-021A	7/28/15	1400	↓		1	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Jodie Denbrock + Earl Batenburg

Shipment Method: drop off

Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	7/28	1600	
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
MKL	7-29	15:20	

Notes:

Cooler ID	Cooler Temp

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **28-Jul-15 15:00**

Work Order: **15071580** Received by: **CW**

Checklist completed by Naoma Leonard eSignature 28-Jul-15 Date Reviewed by: Chad Whelton eSignature 28-Jul-15 Date

Matrices: SOIL

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	6.0	sr2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/28/2015 3:23:01 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

13-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **1507531**

Dear Rawa,

ALS Environmental received 3 samples on 09-Jul-2015 03:55 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 13-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **1507531**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1507531-01	SO-017360-070915-EB-001	Soil		7/9/2015 09:45	7/9/2015 15:55	☐
1507531-02	SO-017360-070915-EB-002	Soil		7/9/2015 09:55	7/9/2015 15:55	☐
1507531-03	SO-017360-070915-EB-003	Soil		7/9/2015 10:00	7/9/2015 15:55	☐

ALS Group USA, Corp

Date: 13-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 1507531

Case Narrative

Batch 73371, Method SVO_8270_S, Sample 1507531-01A MS/MSD: The MS and MSD recoveries were above the upper control limits for multiple compounds. The corresponding results in the parent sample may be biased high.

ALS Group USA, Corp

Date: 13-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **1507531**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *13-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-070915-EB-001
Collection Date: 7/9/2015 09:45 AM

Work Order: 1507531
Lab ID: 1507531-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/10/15		Analyst: **ML**
Chromium	**14**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/11/2015 00:40
Lead	**30**		**0.034**	**1.4**	**mg/Kg-dry**	4	7/11/2015 00:40
Manganese	**85**		**0.23**	**1.4**	**mg/Kg-dry**	4	7/11/2015 00:40
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/10/15		Analyst: **RS**
2-Methylnaphthalene	**12**		**2.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Acenaphthene	**83**		**2.7**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Acenaphthylene	U		2.2	7.2	µg/Kg-dry	1	7/10/2015 21:56
Anthracene	**220**		**3.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Benzo(a)anthracene	**590**		**4.4**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Benzo(a)pyrene	**520**		**1.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Benzo(b)fluoranthene	**750**		**2.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Benzo(g,h,i)perylene	**370**		**3.2**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Benzo(k)fluoranthene	**250**		**4.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Chrysene	**590**		**6.1**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Dibenzo(a,h)anthracene	**100**		**2.4**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Fluoranthene	**1,500**		**4.4**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Fluorene	**76**		**4.0**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Indeno(1,2,3-cd)pyrene	**440**		**4.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Naphthalene	U		1.9	7.2	µg/Kg-dry	1	7/10/2015 21:56
Phenanthrene	**920**		**4.0**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Pyrene	**1,100**		**5.5**	**7.2**	**µg/Kg-dry**	1	7/10/2015 21:56
Surr: 2-Fluorobiphenyl	*77.6*			*12-100*	*%REC*	1	7/10/2015 21:56
Surr: 4-Terphenyl-d14	*92.2*			*25-137*	*%REC*	1	7/10/2015 21:56
Surr: Nitrobenzene-d5	*78.1*			*37-107*	*%REC*	1	7/10/2015 21:56
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**13**		**0.28**	**0.54**	**mg/Kg-dry**	1	7/13/2015 17:50
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/10/15		Analyst: **MB**
Chromium, Hexavalent	**0.36**	J	**0.14**	**2.2**	**mg/Kg-dry**	1	7/13/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**8.0**		**0.025**	**0.050**	**% of sample**	1	7/10/2015 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-070915-EB-002
Collection Date: 7/9/2015 09:55 AM

Work Order: 1507531
Lab ID: 1507531-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/10/15		Analyst: **ML**
Chromium	**8.9**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/11/2015 01:05
Lead	**17**		**0.039**	**1.6**	**mg/Kg-dry**	4	7/11/2015 01:05
Manganese	**160**		**0.27**	**1.6**	**mg/Kg-dry**	4	7/11/2015 01:05
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/10/15		Analyst: **RS**
2-Methylnaphthalene	**230**		**25**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Acenaphthene	**770**		**27**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Acenaphthylene	**76**		**22**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Anthracene	**2,300**		**35**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Benzo(a)anthracene	**6,400**		**44**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Benzo(a)pyrene	**6,000**		**15**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Benzo(b)fluoranthene	**7,900**		**25**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Benzo(g,h,i)perylene	**4,000**		**31**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Benzo(k)fluoranthene	**2,800**		**45**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Chrysene	**6,400**		**61**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Dibenzo(a,h)anthracene	**1,100**		**23**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Fluoranthene	**16,000**		**44**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Fluorene	**650**		**40**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Indeno(1,2,3-cd)pyrene	**4,500**		**45**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Naphthalene	U		19	72	µg/Kg-dry	10	7/11/2015 03:07
Phenanthrene	**8,800**		**40**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Pyrene	**12,000**		**55**	**72**	**µg/Kg-dry**	10	7/11/2015 03:07
Surr: 2-Fluorobiphenyl	*82.2*			*12-100*	*%REC*	10	7/11/2015 03:07
Surr: 4-Terphenyl-d14	*82.6*			*25-137*	*%REC*	10	7/11/2015 03:07
Surr: Nitrobenzene-d5	*73.8*			*37-107*	*%REC*	10	7/11/2015 03:07
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**7.9**		**0.28**	**0.54**	**mg/Kg-dry**	1	7/13/2015 17:50
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/10/15		Analyst: **MB**
Chromium, Hexavalent	**0.94**	J	**0.12**	**2.0**	**mg/Kg-dry**	1	7/13/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**7.9**		**0.025**	**0.050**	**% of sample**	1	7/10/2015 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-070915-EB-003
Collection Date: 7/9/2015 10:00 AM

Work Order: 1507531
Lab ID: 1507531-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/10/15		Analyst: **ML**
Chromium	**11**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/11/2015 01:11
Lead	**19**		**0.036**	**1.5**	**mg/Kg-dry**	4	7/11/2015 01:11
Manganese	**63**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/11/2015 01:11
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/10/15		Analyst: **RS**
2-Methylnaphthalene	**20**		**4.8**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Acenaphthene	U		5.1	14	µg/Kg-dry	1	7/11/2015 03:29
Acenaphthylene	U		4.2	14	µg/Kg-dry	1	7/11/2015 03:29
Anthracene	**12**	J	**6.6**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Benzo(a)anthracene	**100**		**8.3**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Benzo(a)pyrene	**100**		**2.9**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Benzo(b)fluoranthene	**160**		**4.7**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Benzo(g,h,i)perylene	**100**		**6.0**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Benzo(k)fluoranthene	**69**		**8.6**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Chrysene	**100**		**12**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Dibenzo(a,h)anthracene	**57**		**4.5**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Fluoranthene	**210**		**8.4**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Fluorene	U		7.6	14	µg/Kg-dry	1	7/11/2015 03:29
Indeno(1,2,3-cd)pyrene	**120**		**8.5**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Naphthalene	U		3.5	14	µg/Kg-dry	1	7/11/2015 03:29
Phenanthrene	**81**		**7.6**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Pyrene	**160**		**10**	**14**	**µg/Kg-dry**	1	7/11/2015 03:29
Surr: 2-Fluorobiphenyl	*84.6*			*12-100*	*%REC*	1	7/11/2015 03:29
Surr: 4-Terphenyl-d14	*95.8*			*25-137*	*%REC*	1	7/11/2015 03:29
Surr: Nitrobenzene-d5	*90.6*			*37-107*	*%REC*	1	7/11/2015 03:29
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **MB**
Chromium, Trivalent	**11**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/13/2015 17:50
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/10/15		Analyst: **MB**
Chromium, Hexavalent	**0.46**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/13/2015 16:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**7.5**		**0.025**	**0.050**	**% of sample**	1	7/10/2015 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **73381** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73381-73381** Units: **mg/Kg** Analysis Date: **7/11/2015 12:03 AM**

Client ID: Run ID: **ICPMS1_150710A** SeqNo: **3366187** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73381-73381** Units: **mg/Kg** Analysis Date: **7/11/2015 12:10 AM**

Client ID: Run ID: **ICPMS1_150710A** SeqNo: **3366188** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	4.702	0.25	5	0	94	80-120	0			
Lead	4.704	0.25	5	0	94.1	80-120	0			
Manganese	4.824	0.25	5	0	96.5	80-120	0			

MS Sample ID: **1507534-02BMS** Units: **mg/Kg** Analysis Date: **7/11/2015 01:29 AM**

Client ID: Run ID: **ICPMS1_150710A** SeqNo: **3366201** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	11.29	0.35	7.092	5.277	84.8	75-125	0			
Lead	24.03	0.35	7.092	15.21	124	75-125	0			
Manganese	41.09	0.35	7.092	31.32	138	75-125	0			SO

MSD Sample ID: **1507534-02BMSD** Units: **mg/Kg** Analysis Date: **7/11/2015 01:36 AM**

Client ID: Run ID: **ICPMS1_150710A** SeqNo: **3366202** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	11.32	0.35	7.042	5.277	85.8	75-125	11.29	0.231	25	
Lead	26.59	0.35	7.042	15.21	162	75-125	24.03	10.1	25	S
Manganese	40.86	0.35	7.042	31.32	135	75-125	41.09	0.569	25	SO

The following samples were analyzed in this batch: 1507531-01A 1507531-02A 1507531-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73371** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73371-73371** Units: **µg/Kg** Analysis Date: **7/10/2015 05:43 PM**
Client ID: Run ID: **SVMS5_150710A** SeqNo: **3366760** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1343*	0	*1667*	0	*80.6*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1471*	0	*1667*	0	*88.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1411*	0	*1667*	0	*84.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507531
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73371** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73371-73371** Units: **µg/Kg** Analysis Date: **7/10/2015 06:04 PM**
Client ID: Run ID: **SVMS5_150710A** SeqNo: **3366762** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	553.7	6.7	666.7	0	83	45-105	0			
Acenaphthene	539.3	6.7	666.7	0	80.9	45-110	0			
Acenaphthylene	546.7	6.7	666.7	0	82	45-105	0			
Anthracene	572.3	6.7	666.7	0	85.8	55-105	0			
Benzo(a)anthracene	590.3	6.7	666.7	0	88.5	50-110	0			
Benzo(a)pyrene	579	6.7	666.7	0	86.8	50-110	0			
Benzo(b)fluoranthene	591.7	6.7	666.7	0	88.7	45-115	0			
Benzo(g,h,i)perylene	567.3	6.7	666.7	0	85.1	40-125	0			
Benzo(k)fluoranthene	570	6.7	666.7	0	85.5	45-115	0			
Chrysene	587.7	6.7	666.7	0	88.1	55-110	0			
Dibenzo(a,h)anthracene	562.7	6.7	666.7	0	84.4	40-125	0			
Fluoranthene	588.3	6.7	666.7	0	88.2	55-115	0			
Fluorene	534	6.7	666.7	0	80.1	50-110	0			
Indeno(1,2,3-cd)pyrene	582.7	6.7	666.7	0	87.4	40-120	0			
Naphthalene	402	6.7	666.7	0	60.3	40-105	0			
Phenanthrene	592.3	6.7	666.7	0	88.8	50-110	0			
Pyrene	618.3	6.7	666.7	0	92.7	45-125	0			
Surr: 2-Fluorobiphenyl	*1380*	0	*1667*	0	*82.8*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1493*	0	*1667*	0	*89.6*	*25-137*	0			
Surr: Nitrobenzene-d5	*1433*	0	*1667*	0	*86*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507531
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73371** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **1507531-01A MS** Units: **µg/Kg** Analysis Date: **7/10/2015 09:12 PM**
Client ID: **SO-017360-070915-EB-001** Run ID: **SVMS5_150710A** SeqNo: **3366765** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1108	13	1262	10.66	87	45-105	0			
Acenaphthene	1273	13	1262	76.64	94.8	45-110	0			
Acenaphthylene	1063	13	1262	0	84.2	45-105	0			
Anthracene	1602	13	1262	197.9	111	55-105	0			S
Benzo(a)anthracene	2125	13	1262	542.8	125	50-110	0			S
Benzo(a)pyrene	1997	13	1262	481.9	120	50-110	0			S
Benzo(b)fluoranthene	2427	13	1262	693.1	137	45-115	0			S
Benzo(g,h,i)perylene	1693	13	1262	344.9	107	40-125	0			
Benzo(k)fluoranthene	1532	13	1262	230.9	103	45-115	0			
Chrysene	2078	13	1262	544.8	121	55-110	0			S
Dibenzo(a,h)anthracene	1276	13	1262	92.97	93.7	40-125	0			
Fluoranthene	3605	13	1262	1339	179	55-115	0			S
Fluorene	1274	13	1262	69.65	95.4	50-110	0			
Indeno(1,2,3-cd)pyrene	1723	13	1262	402.5	105	40-120	0			
Naphthalene	807.1	13	1262	0	63.9	40-105	0			
Phenanthrene	3071	13	1262	843.7	176	50-110	0			S
Pyrene	3185	13	1262	1056	169	45-125	0			S
Surr: 2-Fluorobiphenyl	*2652*	0	*3155*	0	*84.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2881*	0	*3155*	0	*91.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*2891*	0	*3155*	0	*91.6*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507531
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73371** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **1507531-01A MSD** Units: **µg/Kg** Analysis Date: **7/10/2015 09:34 PM**
Client ID: **SO-017360-070915-EB-001** Run ID: **SVMS5_150710A** SeqNo: **3366767** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	1036	13	1323	10.66	77.5	45-105	1108	6.76	30	
Acenaphthene	1259	13	1323	76.64	89.4	45-110	1273	1.08	30	
Acenaphthylene	1058	13	1323	0	80	45-105	1063	0.427	30	
Anthracene	1596	13	1323	197.9	106	55-105	1602	0.4	30	S
Benzo(a)anthracene	2210	13	1323	542.8	126	50-110	2125	3.94	30	S
Benzo(a)pyrene	2024	13	1323	481.9	117	50-110	1997	1.35	30	S
Benzo(b)fluoranthene	2378	13	1323	693.1	127	45-115	2427	2.03	30	S
Benzo(g,h,i)perylene	1683	13	1323	344.9	101	40-125	1693	0.63	30	
Benzo(k)fluoranthene	1615	13	1323	230.9	105	45-115	1532	5.26	30	
Chrysene	2146	13	1323	544.8	121	55-110	2078	3.19	30	S
Dibenzo(a,h)anthracene	1280	13	1323	92.97	89.7	40-125	1276	0.292	30	
Fluoranthene	3738	13	1323	1339	181	55-115	3605	3.63	30	S
Fluorene	1287	13	1323	69.65	92	50-110	1274	1.06	30	
Indeno(1,2,3-cd)pyrene	1742	13	1323	402.5	101	40-120	1723	1.07	30	
Naphthalene	744	13	1323	0	56.2	40-105	807.1	8.14	30	
Phenanthrene	3247	13	1323	843.7	182	50-110	3071	5.55	30	S
Pyrene	3254	13	1323	1056	166	45-125	3185	2.14	30	S
Surr: 2-Fluorobiphenyl	*2513*	0	*3307*	0	*76*	*12-100*	2652	*5.39*	*40*	
Surr: 4-Terphenyl-d14	*2880*	0	*3307*	0	*87.1*	*25-137*	2881	*0.0425*	*40*	
Surr: Nitrobenzene-d5	*2615*	0	*3307*	0	*79.1*	*37-107*	2891	*10*	*40*	

The following samples were analyzed in this batch: 1507531-01A 1507531-02A 1507531-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507531
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73467** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73467-73467** Units: **mg/Kg** Analysis Date: **7/13/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150713I** SeqNo: **3367808** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	1.0								

LCS Sample ID: **LCS-73467-73467** Units: **mg/Kg** Analysis Date: **7/13/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150713I** SeqNo: **3367807** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.56	1.0	5	0	91.2	80-120	0			

MS Sample ID: **1507367-11A MSI** Units: **mg/Kg** Analysis Date: **7/13/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150713I** SeqNo: **3367797** Prep Date: **7/10/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1768	98	2224	0.5321	79.4	75-125	0			

MS Sample ID: **1507367-11AMS** Units: **mg/Kg** Analysis Date: **7/13/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150713I** SeqNo: **3367799** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.082	1.0	5.102	0.5321	50	75-125	0			S

MSD Sample ID: **1507367-11AMSD** Units: **mg/Kg** Analysis Date: **7/13/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_150713I** SeqNo: **3367800** Prep Date: **7/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.427	0.97	4.854	0.5321	59.6	75-125	3.082	10.6	20	S

The following samples were analyzed in this batch: 1507531-01A 1507531-02A 1507531-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507531
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R167459** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R167459** Units: **% of sample** Analysis Date: **7/10/2015 04:05 PM**
Client ID: Run ID: **MOIST_150710F** SeqNo: **3367070** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R167459** Units: **% of sample** Analysis Date: **7/10/2015 04:05 PM**
Client ID: Run ID: **MOIST_150710F** SeqNo: **3367069** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1507042-01A DUP** Units: **% of sample** Analysis Date: **7/10/2015 04:05 PM**
Client ID: Run ID: **MOIST_150710F** SeqNo: **3367048** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	10.82	0.050	0	0	0		11.24	3.81	20	

DUP Sample ID: **1507401-02A DUP** Units: **% of sample** Analysis Date: **7/10/2015 04:05 PM**
Client ID: Run ID: **MOIST_150710F** SeqNo: **3367063** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.11	0.050	0	0	0		15.76	8.21	20	

The following samples were analyzed in this batch: 1507531-01A 1507531-02A 1507531-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

COC NO.: PL-11905

PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-TI/YIS-0	Laboratory Name: ALS	Lab Location: Holland, MI	SSOW ID: 017360
Project Name: Former GRUMP RACER	Lab Contact: Chad Weldon	Lab Quote No:	Cooler No:
Project Location: Wyoming MI			Carrier: dsp @ 16
Chemistry Contact: Dawn Flexler			Airbill No:
Sampler(s): E. Batenburg			Date Shipped: 7/9/15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO3	H2SO4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5g, 1x25g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PAHs	Pb-6010	Mn-6010	Cr-III/VI (Hexavalent Cr)				MS/MSD Request	Comments/ Special Instructions:
1	SO-017360-070915-EB-001	7/9/15	945	SO	G										X	X	X	X					
2	-002		955												X	X	X	X					
3	-003		1000												X	X	X	X					
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

7-9-15

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☑ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 3

All Samples in Cooler must be on COC

Notes/ Special Requirements: 4.4°c

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	GRD (CH)	7-9-15	1555	1.	ALS	7/9/15	1555
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (2010804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **09-Jul-15 15:55**

Work Order: **1507531** Received by: **PD**

Checklist completed by Diane Shaw (eSignature) 09-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 09-Jul-15 (Date)

Matrices: Soil
Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.4 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/9/2015 4:08:32 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

14-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **1507561**

Dear Rawa,

ALS Environmental received 2 samples on 10-Jul-2015 10:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 9.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 14-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **1507561**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1507561-01	SO-017360-071015-EB-001	Soil		7/10/2015 08:30	7/10/2015 10:20	☐
1507561-02	SO-017360-071015-EB-002	Soil		7/10/2015 08:40	7/10/2015 10:20	☐

ALS Group USA, Corp

Date: 14-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **1507561**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: *14-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071015-EB-001
Collection Date: 7/10/2015 08:30 AM

Work Order: 1507561
Lab ID: 1507561-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3541 / 7/13/15		Analyst: **BLM**
Aroclor 1016	U		10	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1221	U		10	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1232	U		10	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1242	U		10	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1248	U		10	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1254	U		13	85	µg/Kg-dry	1	7/14/2015 10:02
Aroclor 1260	**4,500**		**130**	**850**	**µg/Kg-dry**	10	7/14/2015 11:57
Surr: Decachlorobiphenyl	*76.1*			*40-140*	*%REC*	1	7/14/2015 10:02
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.8**		**0.025**	**0.050**	**% of sample**	1	7/13/2015 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *14-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-071015-EB-002
Collection Date: 7/10/2015 08:40 AM

Work Order: 1507561
Lab ID: 1507561-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3541 / 7/13/15		Analyst: **BLM**
Aroclor 1016	U		10	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1221	U		10	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1232	U		10	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1242	U		10	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1248	U		10	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1254	U		13	87	µg/Kg-dry	1	7/14/2015 10:19
Aroclor 1260	**81,000**		**650**	**4,400**	**µg/Kg-dry**	50	7/14/2015 12:13
Surr: Decachlorobiphenyl	*83.1*			*40-140*	*%REC*	1	7/14/2015 10:19
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.1**		**0.025**	**0.050**	**% of sample**	1	7/13/2015 14:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 14-Jul-15

Client: GHD Services Inc.

Work Order: 1507561

Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73428** Instrument ID **GC14** Method: **SW8082**

MBLK	Sample ID: **PBLKS1-73428-73428**			Units: **µg/Kg**			Analysis Date: **7/14/2015 09:30 AM**			
Client ID:	Run ID: **GC14_150713A**			SeqNo: **3369168**		Prep Date: **7/13/2015**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	83								
Aroclor 1221	U	83								
Aroclor 1232	U	83								
Aroclor 1242	U	83								
Aroclor 1248	U	83								
Aroclor 1254	U	83								
Aroclor 1260	U	83								
Surr: Decachlorobiphenyl	*34*	0	*33.3*	0	*102*	*40-140*	0			

LCS	Sample ID: **PLCSS1-73428-73428**			Units: **µg/Kg**			Analysis Date: **7/14/2015 09:46 AM**			
Client ID:	Run ID: **GC14_150713A**			SeqNo: **3369172**		Prep Date: **7/13/2015**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	733.3	83	833	0	88	50-130	0			
Aroclor 1260	856.7	83	833	0	103	50-130	0			
Surr: Decachlorobiphenyl	*34.33*	0	*33.3*	0	*103*	*40-140*	0			

MS	Sample ID: **1507611-16B MS**			Units: **µg/Kg**			Analysis Date: **7/14/2015 10:51 AM**			
Client ID:	Run ID: **GC14_150713A**			SeqNo: **3369185**		Prep Date: **7/13/2015**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	790.9	81	808.7	0	97.8	40-140	0			
Aroclor 1260	891.2	81	808.7	0	110	40-140	0			
Surr: Decachlorobiphenyl	*32.04*	0	*32.33*	0	*99.1*	*40-140*	0			

MSD	Sample ID: **1507611-16B MSD**			Units: **µg/Kg**			Analysis Date: **7/14/2015 11:08 AM**			
Client ID:	Run ID: **GC14_150713A**			SeqNo: **3369187**		Prep Date: **7/13/2015**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	864.6	82	819.3	0	106	40-140	790.9	8.9	50	
Aroclor 1260	868.5	82	819.3	0	106	40-140	891.2	2.58	50	
Surr: Decachlorobiphenyl	*33.11*	0	*32.75*	0	*101*	*40-140*	32.04	*3.31*	*50*	

The following samples were analyzed in this batch: 1507561-01A 1507561-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507561
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R167522** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R167522** Units: **% of sample** Analysis Date: **7/13/2015 02:20 PM**
Client ID: Run ID: **MOIST_150713A** SeqNo: **3368572** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R167522** Units: **% of sample** Analysis Date: **7/13/2015 02:20 PM**
Client ID: Run ID: **MOIST_150713A** SeqNo: **3368570** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1507153-01A DUP** Units: **% of sample** Analysis Date: **7/13/2015 02:20 PM**
Client ID: Run ID: **MOIST_150713A** SeqNo: **3368525** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	26.19	0.050	0	0	0		25.81	1.46	20	

DUP Sample ID: **1507155-01A DUP** Units: **% of sample** Analysis Date: **7/13/2015 02:20 PM**
Client ID: Run ID: **MOIST_150713A** SeqNo: **3368529** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	25.3	0.050	0	0	0		25.3	0	20	

The following samples were analyzed in this batch: 1507561-01A 1507561-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123 Fax: (734) 453-5201

150 1261

COC NO.: PL- 11904

PAGE 1 OF 1

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-703/15-0040	Laboratory Name: ALS	Lab Location: Holland MI	SSOW ID:
Project Name: Focus Grant Racer	Lab Contact: Chad Whelton	Lab Quote No:	Cooler No:
Project Location: Wyoming MI			Carrier: drop off
Chemistry Contact: Rawa Fleisher			Airbill No:
Sampler(s): E. Bitzberg			Date Shipped:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO3)	Sulfuric Acid (H2SO4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCore Sampler 1125-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCB	MS/MSD Request	Comments/ Special Instructions:
1	SO-017360-07015-EB-001	7/9/15	830	SO	G	1								1	X		
2	↓ ↓ ↓ ↓ -002	↓	840	↓	↓	1								1	X		
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11			7-10-15														
12																	
13																	
14																	
15																	

TAT Required in business days (use separate COCs for different TATs): ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 2

All Samples in Cooler must be on COC

Notes/ Special Requirements: 2.4°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	GHD	7-10-15	900	1.	GHD	7/10/15	0910
2.				2.	ALS	7/10/15	1020
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **10-Jul-15 10:20**

Work Order: **1507561** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 10-Jul-15 (Date) Reviewed by: Chad Whelton (eSignature) 10-Jul-15 (Date)

Matrices: Soil
Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.4 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/10/2015 10:52:49 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

17-Jul-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **1507749**

Dear Rawa,

ALS Environmental received 12 samples on 14-Jul-2015 03:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 26.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 17-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **1507749**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1507749-01	S0-017360-071315-EB-001	Soil		7/13/2015 12:05	7/14/2015 03:20	☐
1507749-02	S0-017360-071315-EB-002	Soil		7/13/2015 12:15	7/14/2015 03:20	☐
1507749-03	S0-017360-071315-EB-003	Soil		7/13/2015 12:25	7/14/2015 03:20	☐
1507749-04	S0-017360-071315-EB-004	Soil		7/13/2015 12:35	7/14/2015 03:20	☐
1507749-05	S0-017360-071315-EB-005	Soil		7/13/2015 12:50	7/14/2015 03:20	☐
1507749-06	S0-017360-071315-EB-006	Soil		7/13/2015 13:05	7/14/2015 03:20	☐
1507749-07	S0-017360-071315-EB-007	Soil		7/13/2015 13:15	7/14/2015 03:20	☐
1507749-08	S0-017360-071315-EB-008	Soil		7/13/2015 13:25	7/14/2015 03:20	☐
1507749-09	S0-017360-071315-EB-009	Soil		7/13/2015 13:40	7/14/2015 03:20	☐
1507749-10	S0-017360-071315-EB-010	Soil		7/13/2015 13:50	7/14/2015 03:20	☐
1507749-11	S0-017360-071315-EB-011	Soil		7/13/2015 14:05	7/14/2015 03:20	☐
1507749-12	S0-017360-071315-EB-012	Soil		7/13/2015 14:10	7/14/2015 03:20	☐

ALS Group USA, Corp

Date: 17-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: 1507749

Case Narrative

Batch 73551, Method SVO_8270_S, Sample 1507749-05A: The MS and MSD recovery were above the upper control limits for Benzo(a)anthracene, Benzo(b)fluoranthene, Fluoranthene, Phenanthrene, and Pyrene. The corresponding result in the parent sample may be biased high.

Batch 73546, Method ICP_6020_S, Sample 1507749-05A: The MS and MSD recoveries were outside of the control limits for Lead and Manganese; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch 73546, Method ICP_6020_S, Sample 1507749-05A: The MS and MSD recoveries for Chromium were outside control limits and the RPD exceeding criteria. The corresponding result in the parent sample should be considered estimated.

Batch 73631, Method CR6_7196_S, Sample 1507749-05A: The MS and MSD recoveries were below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

ALS Group USA, Corp

Date: 17-Jul-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **1507749**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-001
Collection Date: 7/13/2015 12:05 PM

Work Order: 1507749
Lab ID: 1507749-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**60**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:50
Chromium	**6.5**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:50
Lead	**23**		**0.039**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:50
Manganese	**31**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:50
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**47**	J	**25**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Acenaphthene	**180**		**27**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Acenaphthylene	**210**		**22**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Anthracene	**1,200**		**35**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Benzo(a)anthracene	**11,000**		**44**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Benzo(a)pyrene	**21,000**		**15**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Benzo(b)fluoranthene	**27,000**		**120**	**360**	**µg/Kg-dry**	50	7/16/2015 14:10
Benzo(g,h,i)perylene	**15,000**		**32**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Benzo(k)fluoranthene	**9,500**		**45**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Chrysene	**10,000**		**61**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Dibenzo(a,h)anthracene	**3,600**		**24**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Fluoranthene	**14,000**		**45**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Fluorene	**210**		**40**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Indeno(1,2,3-cd)pyrene	**17,000**		**45**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Naphthalene	U		19	73	µg/Kg-dry	10	7/16/2015 04:34
Phenanthrene	**3,500**		**40**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Pyrene	**13,000**		**55**	**73**	**µg/Kg-dry**	10	7/16/2015 04:34
Surr: 2-Fluorobiphenyl	*68.4*			*12-100*	*%REC*	10	7/16/2015 04:34
Surr: 4-Terphenyl-d14	*70.2*			*25-137*	*%REC*	10	7/16/2015 04:34
Surr: Nitrobenzene-d5	*64.0*			*37-107*	*%REC*	10	7/16/2015 04:34
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**5.6**		**0.28**	**0.56**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**0.88**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	7/14/2015 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-002
Collection Date: 7/13/2015 12:15 PM

Work Order: 1507749
Lab ID: 1507749-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**10**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Acenaphthene	U		2.6	7.0	µg/Kg-dry	1	7/16/2015 04:54
Acenaphthylene	**11**		**2.1**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Anthracene	**15**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Benzo(a)anthracene	**110**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Benzo(a)pyrene	**130**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Benzo(b)fluoranthene	**200**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Benzo(g,h,i)perylene	**110**		**3.0**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Benzo(k)fluoranthene	**67**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Chrysene	**140**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Dibenzo(a,h)anthracene	**31**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Fluoranthene	**130**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Fluorene	U		3.9	7.0	µg/Kg-dry	1	7/16/2015 04:54
Indeno(1,2,3-cd)pyrene	**120**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Naphthalene	**4.5**	J	**1.8**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Phenanthrene	**68**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Pyrene	**120**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 04:54
Surr: 2-Fluorobiphenyl	*64.3*			*12-100*	*%REC*	1	7/16/2015 04:54
Surr: 4-Terphenyl-d14	*79.3*			*25-137*	*%REC*	1	7/16/2015 04:54
Surr: Nitrobenzene-d5	*55.4*			*37-107*	*%REC*	1	7/16/2015 04:54
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.2**		**0.025**	**0.050**	**% of sample**	1	7/14/2015 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-003
Collection Date: 7/13/2015 12:25 PM

Work Order: 1507749
Lab ID: 1507749-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**18**		**2.3**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Acenaphthene	U		2.5	6.6	µg/Kg-dry	1	7/16/2015 05:14
Acenaphthylene	**18**		**2.0**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Anthracene	**25**		**3.2**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Benzo(a)anthracene	**130**		**4.0**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Benzo(a)pyrene	**140**		**1.4**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Benzo(b)fluoranthene	**220**		**2.3**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Benzo(g,h,i)perylene	**140**		**2.9**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Benzo(k)fluoranthene	**76**		**4.2**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Chrysene	**170**		**5.6**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Dibenzo(a,h)anthracene	**38**		**2.2**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Fluoranthene	**220**		**4.1**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Fluorene	**6.6**	J	**3.7**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Indeno(1,2,3-cd)pyrene	**140**		**4.1**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Naphthalene	**10**		**1.7**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Phenanthrene	**91**		**3.7**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Pyrene	**210**		**5.0**	**6.6**	**µg/Kg-dry**	1	7/16/2015 05:14
Surr: 2-Fluorobiphenyl	*78.6*			*12-100*	*%REC*	1	7/16/2015 05:14
Surr: 4-Terphenyl-d14	*80.5*			*25-137*	*%REC*	1	7/16/2015 05:14
Surr: Nitrobenzene-d5	*65.3*			*37-107*	*%REC*	1	7/16/2015 05:14
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**2.3**		**0.025**	**0.050**	**% of sample**	1	7/14/2015 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-004
Collection Date: 7/13/2015 12:35 PM

Work Order: 1507749
Lab ID: 1507749-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**48**		**2.4**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Acenaphthene	**9.8**		**2.5**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Acenaphthylene	**5.7**	J	**2.1**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Anthracene	**33**		**3.3**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Benzo(a)anthracene	**130**		**4.1**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Benzo(a)pyrene	**130**		**1.4**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Benzo(b)fluoranthene	**220**		**2.3**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Benzo(g,h,i)perylene	**120**		**2.9**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Benzo(k)fluoranthene	**70**		**4.2**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Chrysene	**160**		**5.7**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Dibenzo(a,h)anthracene	**38**		**2.2**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Fluoranthene	**220**		**4.1**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Fluorene	**11**		**3.8**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Indeno(1,2,3-cd)pyrene	**140**		**4.2**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Naphthalene	**25**		**1.7**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Phenanthrene	**150**		**3.7**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Pyrene	**190**		**5.1**	**6.7**	**µg/Kg-dry**	1	7/16/2015 05:34
Surr: 2-Fluorobiphenyl	*62.5*			*12-100*	*%REC*	1	7/16/2015 05:34
Surr: 4-Terphenyl-d14	*79.2*			*25-137*	*%REC*	1	7/16/2015 05:34
Surr: Nitrobenzene-d5	*51.7*			*37-107*	*%REC*	1	7/16/2015 05:34
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**1.9**		**0.025**	**0.050**	**% of sample**	1	7/14/2015 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-005
Collection Date: 7/13/2015 12:50 PM

Work Order: 1507749
Lab ID: 1507749-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**2.9**		**0.24**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:56
Chromium	**16**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:56
Lead	**82**		**0.037**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:56
Manganese	**140**		**0.26**	**1.6**	**mg/Kg-dry**	4	7/15/2015 13:56
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**6.5**	J	**2.4**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Acenaphthene	**3.7**	J	**2.5**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Acenaphthylene	U		2.1	6.8	µg/Kg-dry	1	7/15/2015 22:53
Anthracene	**15**		**3.3**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Benzo(a)anthracene	**120**		**4.1**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Benzo(a)pyrene	**130**		**1.4**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Benzo(b)fluoranthene	**240**		**2.3**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Benzo(g,h,i)perylene	**140**		**3.0**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Benzo(k)fluoranthene	**80**		**4.3**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Chrysene	**150**		**5.7**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Dibenzo(a,h)anthracene	**42**		**2.2**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Fluoranthene	**160**		**4.2**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Fluorene	U		3.8	6.8	µg/Kg-dry	1	7/15/2015 22:53
Indeno(1,2,3-cd)pyrene	**150**		**4.2**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Naphthalene	**4.4**	J	**1.8**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Phenanthrene	**66**		**3.8**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Pyrene	**160**		**5.1**	**6.8**	**µg/Kg-dry**	1	7/15/2015 22:53
Surr: 2-Fluorobiphenyl	*63.6*			*12-100*	*%REC*	1	7/15/2015 22:53
Surr: 4-Terphenyl-d14	*79.2*			*25-137*	*%REC*	1	7/15/2015 22:53
Surr: Nitrobenzene-d5	*53.4*			*37-107*	*%REC*	1	7/15/2015 22:53
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**13**		**0.26**	**0.52**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**2.6**		**0.13**	**2.1**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**4.1**		**0.025**	**0.050**	**% of sample**	1	7/14/2015 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-006
Collection Date: 7/13/2015 01:05 PM

Work Order: 1507749
Lab ID: 1507749-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			Method: **SW6020A**		Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**9.0**		**0.24**	**1.6**	**mg/Kg-dry**	4	7/15/2015 14:26
Chromium	**150**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/15/2015 14:26
Lead	**190**		**0.037**	**1.6**	**mg/Kg-dry**	4	7/15/2015 14:26
Manganese	**2,100**		**2.5**	**16**	**mg/Kg-dry**	40	7/15/2015 15:37
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: **SW846 8270D**		Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**200**		**25**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Acenaphthene	**190**		**27**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Acenaphthylene	**40**	J	**22**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Anthracene	**670**		**35**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Benzo(a)anthracene	**2,100**		**44**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Benzo(a)pyrene	**2,100**		**15**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Benzo(b)fluoranthene	**3,100**		**25**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Benzo(g,h,i)perylene	**2,300**		**31**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Benzo(k)fluoranthene	**890**		**45**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Chrysene	**2,500**		**61**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Dibenzo(a,h)anthracene	**590**		**23**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Fluoranthene	**3,400**		**44**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Fluorene	**270**		**40**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Indeno(1,2,3-cd)pyrene	**2,000**		**45**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Naphthalene	**87**		**19**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Phenanthrene	**2,800**		**40**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Pyrene	**3,400**		**55**	**72**	**µg/Kg-dry**	10	7/16/2015 05:54
Surr: 2-Fluorobiphenyl	*80.4*			*12-100*	*%REC*	10	7/16/2015 05:54
Surr: 4-Terphenyl-d14	*81.4*			*25-137*	*%REC*	10	7/16/2015 05:54
Surr: Nitrobenzene-d5	*71.6*			*37-107*	*%REC*	10	7/16/2015 05:54
CHROMIUM, TRIVALENT			Method: **CALCULATION**				Analyst: **EE**
Chromium, Trivalent	**150**		**0.28**	**0.54**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT			Method: **SW7196A**		Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**4.7**		**0.14**	**2.2**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE			Method: **E160.3M**				Analyst: **PT**
Moisture	**8.0**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-007
Collection Date: 7/13/2015 01:15 PM

Work Order: 1507749
Lab ID: 1507749-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**2.3**		**0.27**	**1.7**	**mg/Kg-dry**	4	7/15/2015 14:32
Chromium	**7.5**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/15/2015 14:32
Lead	**24**		**0.041**	**1.7**	**mg/Kg-dry**	4	7/15/2015 14:32
Manganese	**72**		**0.28**	**1.7**	**mg/Kg-dry**	4	7/15/2015 14:32
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**74**	J	**29**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Acenaphthene	**45**	J	**31**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Acenaphthylene	**240**		**25**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Anthracene	**520**		**40**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Benzo(a)anthracene	**1,800**		**50**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Benzo(a)pyrene	**3,900**		**17**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Benzo(b)fluoranthene	**5,300**		**28**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Benzo(g,h,i)perylene	**9,800**		**36**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Benzo(k)fluoranthene	**1,700**		**51**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Chrysene	**2,400**		**69**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Dibenzo(a,h)anthracene	**1,000**		**27**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Fluoranthene	**2,700**		**50**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Fluorene	**110**		**46**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Indeno(1,2,3-cd)pyrene	**5,000**		**51**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Naphthalene	**49**	J	**21**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Phenanthrene	**650**		**45**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Pyrene	**3,300**		**62**	**82**	**µg/Kg-dry**	10	7/16/2015 06:14
Surr: 2-Fluorobiphenyl	*75.4*			*12-100*	*%REC*	10	7/16/2015 06:14
Surr: 4-Terphenyl-d14	*74.4*			*25-137*	*%REC*	10	7/16/2015 06:14
Surr: Nitrobenzene-d5	*74.2*			*37-107*	*%REC*	10	7/16/2015 06:14
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**2.3**		**0.31**	**0.62**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**5.2**		**0.15**	**2.4**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-008
Collection Date: 7/13/2015 01:25 PM

Work Order: 1507749
Lab ID: 1507749-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**23**		**0.26**	**1.7**	**mg/Kg-dry**	4	7/15/2015 14:56
Chromium	**2,300**		**2.7**	**17**	**mg/Kg-dry**	40	7/15/2015 15:43
Lead	**1,600**		**0.40**	**17**	**mg/Kg-dry**	40	7/15/2015 15:43
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**180**		**26**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Acenaphthene	**290**		**27**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Acenaphthylene	**130**		**23**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Anthracene	**1,300**		**35**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Benzo(a)anthracene	**4,400**		**44**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Benzo(a)pyrene	**6,800**		**15**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Benzo(b)fluoranthene	**9,800**		**25**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Benzo(g,h,i)perylene	**8,300**		**32**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Benzo(k)fluoranthene	**2,600**		**46**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Chrysene	**5,800**		**62**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Dibenzo(a,h)anthracene	**2,000**		**24**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Fluoranthene	**7,100**		**45**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Fluorene	**370**		**41**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Indeno(1,2,3-cd)pyrene	**7,600**		**46**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Naphthalene	**350**		**19**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Phenanthrene	**5,200**		**41**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Pyrene	**7,700**		**55**	**73**	**µg/Kg-dry**	10	7/16/2015 06:34
Surr: 2-Fluorobiphenyl	*78.8*			*12-100*	*%REC*	10	7/16/2015 06:34
Surr: 4-Terphenyl-d14	*84.4*			*25-137*	*%REC*	10	7/16/2015 06:34
Surr: Nitrobenzene-d5	*69.0*			*37-107*	*%REC*	10	7/16/2015 06:34
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**2,300**		**0.28**	**0.55**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	U		0.13	2.0	mg/Kg-dry	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**9.8**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-009
Collection Date: 7/13/2015 01:40 PM

Work Order: 1507749
Lab ID: 1507749-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**5.2**		**0.32**	**2.1**	**mg/Kg-dry**	4	7/15/2015 15:09
Chromium	**280**		**0.33**	**2.1**	**mg/Kg-dry**	4	7/15/2015 15:09
Lead	**260**		**0.050**	**2.1**	**mg/Kg-dry**	4	7/15/2015 15:09
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	U		32	90	µg/Kg-dry	10	7/16/2015 06:54
Acenaphthene	U		34	90	µg/Kg-dry	10	7/16/2015 06:54
Acenaphthylene	U		28	90	µg/Kg-dry	10	7/16/2015 06:54
Anthracene	**150**		**44**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Benzo(a)anthracene	**380**		**55**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Benzo(a)pyrene	**590**		**19**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Benzo(b)fluoranthene	**770**		**31**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Benzo(g,h,i)perylene	**850**		**39**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Benzo(k)fluoranthene	**270**		**56**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Chrysene	**500**		**76**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Dibenzo(a,h)anthracene	**170**		**29**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Fluoranthene	**690**		**55**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Fluorene	U		50	90	µg/Kg-dry	10	7/16/2015 06:54
Indeno(1,2,3-cd)pyrene	**710**		**56**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Naphthalene	U		23	90	µg/Kg-dry	10	7/16/2015 06:54
Phenanthrene	**370**		**50**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Pyrene	**680**		**68**	**90**	**µg/Kg-dry**	10	7/16/2015 06:54
Surr: 2-Fluorobiphenyl	*80.6*			*12-100*	*%REC*	10	7/16/2015 06:54
Surr: 4-Terphenyl-d14	*78.0*			*25-137*	*%REC*	10	7/16/2015 06:54
Surr: Nitrobenzene-d5	*71.6*			*37-107*	*%REC*	10	7/16/2015 06:54
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**280**		**0.35**	**0.68**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	U		0.16	2.6	mg/Kg-dry	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**26**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-010
Collection Date: 7/13/2015 01:50 PM

Work Order: 1507749
Lab ID: 1507749-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**19**		**0.24**	**1.6**	**mg/Kg-dry**	4	7/15/2015 15:18
Chromium	**26**		**0.25**	**1.6**	**mg/Kg-dry**	4	7/15/2015 15:18
Lead	**33**		**0.037**	**1.6**	**mg/Kg-dry**	4	7/15/2015 15:18
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**56**	J	**25**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Acenaphthene	U		26	71	µg/Kg-dry	10	7/16/2015 07:14
Acenaphthylene	**92**		**22**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Anthracene	**120**		**34**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Benzo(a)anthracene	**430**		**43**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Benzo(a)pyrene	**560**		**15**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Benzo(b)fluoranthene	**720**		**24**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Benzo(g,h,i)perylene	**630**		**31**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Benzo(k)fluoranthene	**230**		**44**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Chrysene	**470**		**59**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Dibenzo(a,h)anthracene	**180**		**23**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Fluoranthene	**670**		**43**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Fluorene	U		39	71	µg/Kg-dry	10	7/16/2015 07:14
Indeno(1,2,3-cd)pyrene	**630**		**44**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Naphthalene	**46**	J	**18**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Phenanthrene	**280**		**39**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Pyrene	**590**		**53**	**71**	**µg/Kg-dry**	10	7/16/2015 07:14
Surr: 2-Fluorobiphenyl	*79.2*			*12-100*	*%REC*	10	7/16/2015 07:14
Surr: 4-Terphenyl-d14	*74.0*			*25-137*	*%REC*	10	7/16/2015 07:14
Surr: Nitrobenzene-d5	*68.0*			*37-107*	*%REC*	10	7/16/2015 07:14
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**23**		**0.27**	**0.54**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**2.6**		**0.12**	**2.0**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**7.6**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-011
Collection Date: 7/13/2015 02:05 PM

Work Order: 1507749
Lab ID: 1507749-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**9.8**		**0.23**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:24
Chromium	**17**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:24
Lead	**31**		**0.036**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:24
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**38**		**2.5**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Acenaphthene	**4.2**	J	**2.6**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Acenaphthylene	**39**		**2.1**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Anthracene	**29**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Benzo(a)anthracene	**130**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Benzo(a)pyrene	**180**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Benzo(b)fluoranthene	**290**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Benzo(g,h,i)perylene	**140**		**3.1**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Benzo(k)fluoranthene	**96**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Chrysene	**160**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Dibenzo(a,h)anthracene	**42**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Fluoranthene	**170**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Fluorene	**7.0**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Indeno(1,2,3-cd)pyrene	**160**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Naphthalene	**18**		**1.8**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Phenanthrene	**99**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Pyrene	**260**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:34
Surr: 2-Fluorobiphenyl	*68.1*			*12-100*	*%REC*	1	7/16/2015 07:34
Surr: 4-Terphenyl-d14	*78.3*			*25-137*	*%REC*	1	7/16/2015 07:34
Surr: Nitrobenzene-d5	*60.1*			*37-107*	*%REC*	1	7/16/2015 07:34
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**17**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**0.88**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**6.4**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *17-Jul-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: S0-017360-071315-EB-012
Collection Date: 7/13/2015 02:10 PM

Work Order: 1507749
Lab ID: 1507749-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS		Method: **SW6020A**			Prep: SW3050B / 7/15/15		Analyst: **RH**
Arsenic	**9.3**		**0.24**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:31
Chromium	**15**		**0.25**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:31
Lead	**29**		**0.037**	**1.5**	**mg/Kg-dry**	4	7/15/2015 15:31
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 7/15/15		Analyst: **RM**
2-Methylnaphthalene	**44**		**2.5**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Acenaphthene	**5.3**	J	**2.6**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Acenaphthylene	**70**		**2.2**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Anthracene	**56**		**3.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Benzo(a)anthracene	**300**		**4.2**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Benzo(a)pyrene	**400**		**1.5**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Benzo(b)fluoranthene	**570**		**2.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Benzo(g,h,i)perylene	**280**		**3.1**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Benzo(k)fluoranthene	**190**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Chrysene	**380**		**5.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Dibenzo(a,h)anthracene	**84**		**2.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Fluoranthene	**320**		**4.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Fluorene	**10**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Indeno(1,2,3-cd)pyrene	**310**		**4.4**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Naphthalene	**23**		**1.8**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Phenanthrene	**130**		**3.9**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Pyrene	**490**		**5.3**	**7.0**	**µg/Kg-dry**	1	7/16/2015 07:54
Surr: 2-Fluorobiphenyl	*79.8*			*12-100*	*%REC*	1	7/16/2015 07:54
Surr: 4-Terphenyl-d14	*70.2*			*25-137*	*%REC*	1	7/16/2015 07:54
Surr: Nitrobenzene-d5	*70.0*			*37-107*	*%REC*	1	7/16/2015 07:54
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **EE**
Chromium, Trivalent	**14**		**0.27**	**0.53**	**mg/Kg-dry**	1	7/16/2015 16:20
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 7/15/15		Analyst: **EE**
Chromium, Hexavalent	**1.2**	J	**0.13**	**2.1**	**mg/Kg-dry**	1	7/16/2015 14:00
MOISTURE		Method: **E160.3M**					Analyst: **PT**
Moisture	**5.6**		**0.025**	**0.050**	**% of sample**	1	7/15/2015 10:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

QC BATCH REPORT

Batch ID: **73546** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-73546-73546** Units: **mg/Kg** Analysis Date: **7/15/2015 01:37 PM**

Client ID: Run ID: **ICPMS1_150715A** SeqNo: **3371407** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Chromium	U	0.25								
Lead	U	0.25								
Manganese	U	0.25								

LCS Sample ID: **LCS-73546-73546** Units: **mg/Kg** Analysis Date: **7/15/2015 01:44 PM**

Client ID: Run ID: **ICPMS1_150715A** SeqNo: **3371408** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.403	0.25	5	0	88.1	80-120	0			
Chromium	5.135	0.25	5	0	103	80-120	0			
Lead	4.9	0.25	5	0	98	80-120	0			
Manganese	5.14	0.25	5	0	103	80-120	0			

MS Sample ID: **1507749-05AMS** Units: **mg/Kg** Analysis Date: **7/15/2015 02:08 PM**

Client ID: **S0-017360-071315-EB-005** Run ID: **ICPMS1_150715A** SeqNo: **3371412** Prep Date: **7/15/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.302	1.5	7.553	2.795	86.2	75-125	0			
Chromium	17.69	1.5	7.553	14.98	35.9	75-125	0			S
Lead	1118	1.5	7.553	78.41	13800	75-125	0			SEO
Manganese	126.2	1.5	7.553	132.1	-77.7	75-125	0			SO

MSD Sample ID: **1507749-05AMSD** Units: **mg/Kg** Analysis Date: **7/15/2015 02:14 PM**

Client ID: **S0-017360-071315-EB-005** Run ID: **ICPMS1_150715A** SeqNo: **3371413** Prep Date: **7/15/2015** DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.967	1.5	7.553	2.795	95	75-125	9.302	6.9	25	
Chromium	42.33	1.5	7.553	14.98	362	75-125	17.69	82.1	25	SR
Lead	86.92	1.5	7.553	78.41	113	75-125	1118	171	25	RO
Manganese	145.8	1.5	7.553	132.1	181	75-125	126.2	14.4	25	SO

The following samples were analyzed in this batch:

1507749-01A	1507749-05A	1507749-06A
1507749-07A	1507749-08A	1507749-09A
1507749-10A	1507749-11A	1507749-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73551** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-73551-73551** Units: **µg/Kg** Analysis Date: **7/15/2015 07:25 PM**
Client ID: Run ID: **SVMS8_150715A** SeqNo: **3372705** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*1189*	0	*1667*	0	*71.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1442*	0	*1667*	0	*86.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*1102*	0	*1667*	0	*66.1*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73551** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-73551-73551** Units: **µg/Kg** Analysis Date: **7/15/2015 07:45 PM**

Client ID: Run ID: **SVMS8_150715A** SeqNo: **3372706** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	532.7	6.7	666.7	0	79.9	45-105	0			
Acenaphthene	547	6.7	666.7	0	82	45-110	0			
Acenaphthylene	563.7	6.7	666.7	0	84.5	45-105	0			
Anthracene	591	6.7	666.7	0	88.6	55-105	0			
Benzo(a)anthracene	583	6.7	666.7	0	87.4	50-110	0			
Benzo(a)pyrene	568.7	6.7	666.7	0	85.3	50-110	0			
Benzo(b)fluoranthene	562.3	6.7	666.7	0	84.3	45-115	0			
Benzo(g,h,i)perylene	611.7	6.7	666.7	0	91.7	40-125	0			
Benzo(k)fluoranthene	573.3	6.7	666.7	0	86	45-115	0			
Chrysene	558.3	6.7	666.7	0	83.7	55-110	0			
Dibenzo(a,h)anthracene	574	6.7	666.7	0	86.1	40-125	0			
Fluoranthene	566	6.7	666.7	0	84.9	55-115	0			
Fluorene	539.3	6.7	666.7	0	80.9	50-110	0			
Indeno(1,2,3-cd)pyrene	583.7	6.7	666.7	0	87.5	40-120	0			
Naphthalene	395.7	6.7	666.7	0	59.3	40-105	0			
Phenanthrene	554.7	6.7	666.7	0	83.2	50-110	0			
Pyrene	654	6.7	666.7	0	98.1	45-125	0			
Surr: 2-Fluorobiphenyl	*1295*	0	*1667*	0	*77.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1425*	0	*1667*	0	*85.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*1221*	0	*1667*	0	*73.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **73551** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1507749-05A MS** Units: **µg/Kg** Analysis Date: **7/15/2015 10:13 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **SVMS8_150715A** SeqNo: **3372707** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	955.6	13	1290	6.193	73.6	45-105	0			
Acenaphthene	1031	13	1290	3.585	79.7	45-110	0			
Acenaphthylene	1021	13	1290	0	79.2	45-105	0			
Anthracene	1260	13	1290	14.01	96.6	55-105	0			
Benzo(a)anthracene	1580	13	1290	114.4	114	50-110	0			S
Benzo(a)pyrene	1498	13	1290	124.2	107	50-110	0			
Benzo(b)fluoranthene	2103	13	1290	232.1	145	45-115	0			S
Benzo(g,h,i)perylene	1459	13	1290	138.8	102	40-125	0			
Benzo(k)fluoranthene	1421	13	1290	76.92	104	45-115	0			
Chrysene	1526	13	1290	147	107	55-110	0			
Dibenzo(a,h)anthracene	1157	13	1290	40.74	86.6	40-125	0			
Fluoranthene	1702	13	1290	158.1	120	55-115	0			S
Fluorene	1072	13	1290	0	83.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1446	13	1290	146.3	101	40-120	0			
Naphthalene	686.1	13	1290	4.237	52.9	40-105	0			
Phenanthrene	1549	13	1290	63.23	115	50-110	0			S
Pyrene	1943	13	1290	154.5	139	45-125	0			S
Surr: 2-Fluorobiphenyl	*2284*	0	*3224*	0	*70.9*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2853*	0	*3224*	0	*88.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*2087*	0	*3224*	0	*64.7*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507749
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73551** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1507749-05A MSD** Units: **µg/Kg** Analysis Date: **7/15/2015 10:33 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **SVMS8_150715A** SeqNo: **3372708** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	939.9	13	1292	6.193	72.3	45-105	955.6	1.65	30	
Acenaphthene	1038	13	1292	3.585	80.1	45-110	1031	0.686	30	
Acenaphthylene	1036	13	1292	0	80.2	45-105	1021	1.44	30	
Anthracene	1243	13	1292	14.01	95.1	55-105	1260	1.36	30	
Benzo(a)anthracene	1573	13	1292	114.4	113	50-110	1580	0.468	30	S
Benzo(a)pyrene	1524	13	1292	124.2	108	50-110	1498	1.68	30	
Benzo(b)fluoranthene	2072	13	1292	232.1	142	45-115	2103	1.48	30	S
Benzo(g,h,i)perylene	1509	13	1292	138.8	106	40-125	1459	3.41	30	
Benzo(k)fluoranthene	1443	13	1292	76.92	106	45-115	1421	1.54	30	
Chrysene	1536	13	1292	147	107	55-110	1526	0.609	30	
Dibenzo(a,h)anthracene	1200	13	1292	40.74	89.7	40-125	1157	3.64	30	
Fluoranthene	1732	13	1292	158.1	122	55-115	1702	1.73	30	S
Fluorene	1075	13	1292	0	83.2	50-110	1072	0.307	30	
Indeno(1,2,3-cd)pyrene	1510	13	1292	146.3	106	40-120	1446	4.29	30	
Naphthalene	680.2	13	1292	4.237	52.3	40-105	686.1	0.852	30	
Phenanthrene	1544	13	1292	63.23	115	50-110	1549	0.314	30	S
Pyrene	1837	13	1292	154.5	130	45-125	1943	5.65	30	S
Surr: 2-Fluorobiphenyl	*2306*	0	*3230*	0	*71.4*	*12-100*	2284	*0.946*	*40*	
Surr: 4-Terphenyl-d14	*2753*	0	*3230*	0	*85.2*	*25-137*	2853	*3.54*	*40*	
Surr: Nitrobenzene-d5	*2076*	0	*3230*	0	*64.3*	*37-107*	2087	*0.526*	*40*	

The following samples were analyzed in this batch:

1507749-01A	1507749-02A	1507749-03A
1507749-04A	1507749-05A	1507749-06A
1507749-07A	1507749-08A	1507749-09A
1507749-10A	1507749-11A	1507749-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507749
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **73631** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-73631-73631** Units: **mg/Kg** Analysis Date: **7/16/2015 02:00 PM**
Client ID: Run ID: **WETCHEM_150716I** SeqNo: **3373623** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.46	1.0								J

LCS Sample ID: **LCS-73631-73631** Units: **mg/Kg** Analysis Date: **7/16/2015 02:00 PM**
Client ID: Run ID: **WETCHEM_150716I** SeqNo: **3373624** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.82	1.0	5	0	96.4	80-120	0			

MS Sample ID: **1507749-05A MSI** Units: **mg/Kg** Analysis Date: **7/16/2015 02:00 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **WETCHEM_150716I** SeqNo: **3373629** Prep Date: **7/15/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2438	95	2375	2.485	103	75-125	0			

MS Sample ID: **1507749-05AMS** Units: **mg/Kg** Analysis Date: **7/16/2015 02:00 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **WETCHEM_150716I** SeqNo: **3373631** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.51	0.96	4.808	2.485	42.1	75-125	0			S

MSD Sample ID: **1507749-05AMSD** Units: **mg/Kg** Analysis Date: **7/16/2015 02:00 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **WETCHEM_150716I** SeqNo: **3373632** Prep Date: **7/15/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	5.324	0.95	4.762	2.485	59.6	75-125	4.51	16.6	20	S

The following samples were analyzed in this batch:

1507749-01A	1507749-05A	1507749-06A
1507749-07A	1507749-08A	1507749-09A
1507749-10A	1507749-11A	1507749-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507749
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R167632** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R167632** Units: **% of sample** Analysis Date: **7/14/2015 05:55 PM**
Client ID: Run ID: **MOIST_150714E** SeqNo: **3371095** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R167632** Units: **% of sample** Analysis Date: **7/14/2015 05:55 PM**
Client ID: Run ID: **MOIST_150714E** SeqNo: **3371094** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1507748-01A DUP** Units: **% of sample** Analysis Date: **7/14/2015 05:55 PM**
Client ID: Run ID: **MOIST_150714E** SeqNo: **3371073** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	4.35	0.050	0	0	0		4.12	5.43	20	

DUP Sample ID: **1507749-05A DUP** Units: **% of sample** Analysis Date: **7/14/2015 05:55 PM**
Client ID: **S0-017360-071315-EB-005** Run ID: **MOIST_150714E** SeqNo: **3371093** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	3.71	0.050	0	0	0		4.11	10.2	20	

The following samples were analyzed in this batch:

1507749-01A	1507749-02A	1507749-03A
1507749-04A	1507749-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1507749
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R167707** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R167707** Units: **% of sample** Analysis Date: **7/15/2015 10:45 AM**
Client ID: Run ID: **MOIST_150715B** SeqNo: **3372752** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R167707** Units: **% of sample** Analysis Date: **7/15/2015 10:45 AM**
Client ID: Run ID: **MOIST_150715B** SeqNo: **3372751** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1507635-03B DUP** Units: **% of sample** Analysis Date: **7/15/2015 10:45 AM**
Client ID: Run ID: **MOIST_150715B** SeqNo: **3372731** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	4.15	0.050	0	0	0		4.19	0.959	20	

DUP Sample ID: **1507642-01A DUP** Units: **% of sample** Analysis Date: **7/15/2015 10:45 AM**
Client ID: Run ID: **MOIST_150715B** SeqNo: **3372735** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	9.77	0.050	0	0	0		10.24	4.7	20	

The following samples were analyzed in this batch:

1507749-06A	1507749-07A	1507749-08A
1507749-09A	1507749-10A	1507749-11A
1507749-12A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL-11901
PAGE 1 OF 1

1507749 (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-1034/1534-02/405	**Laboratory Name:** ALS	**Lab Location:** Holland, MI	**SSOW ID:** 017360
Project Name: Former GRM Racer	**Lab Contact:** Christine	**Lab Quote No:**	**Cooler No:** 1 of 2
Project Location: Wyoming, MI			**Carrier:** Drop off
Chemistry Contact: Rdwalgren/Fieldsheet			**Airbill No:**
Sampler(s): D. Batenburg			**Date Shipped:**

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp. (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCore 3x5g, 1x25g	Other	Total Containers/Sample	PAHs	TPH-DRO	TPH-GRO	VOCs	Lead	RA/MSD Request	Comments/ Special Instructions:
1	SO-017360-071315-EB-001	7/13/15	1205	SO	G	2						1		3	X	X	X	X	X		
2	-002		1215												X						
3	-003		1225												X						
4	-004		1235												X						
5	-005		1250			2						1		3	X	X	X	X	X		X	MS/MSD
6	-006		1305			1									X	X	X	X	X		
7	-007		1315												X	X	X	X	X		
8	-008		1325												X	X	X		X		
9	-009		1340												X	X	X		X		
10	-010		1350												X	X	X		X		
11	-011		1405												X	X	X		X		
12	-012		1410												X	X	X		X		
13	-017	EB-7	775																		
14																					
15																					

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other

Total Number of Containers: 3

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	7-14-15	1320	1.	ALS	7/14/15	1320
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT—ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE—Fully Executed Copy (CRA) YELLOW—Receiving Laboratory Copy PINK—Shipper GOLDENROD—Sampling Crew

CRA Form: COC-10A (20110804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **14-Jul-15 03:20**

Work Order: **1507749** Received by: **NML**

Checklist completed by Naoma Leonard eSignature 14-Jul-15 Date Reviewed by: Chad Whelton eSignature 15-Jul-15 Date

Matrices: SOIL

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	40 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/14/2015 3:45:18 PM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

07-Aug-2015

Rawa Fleisher
GHD Services Inc.
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **1508139**

Dear Rawa,

ALS Environmental received 3 samples on 04-Aug-2015 05:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 07-Aug-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
Work Order: **1508139**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1508139-01	SO-017360-080415-EB-048	Soil		8/4/2015 16:00	8/4/2015 17:00	☐
1508139-02	SO-017360-080415-EB-049	Soil		8/4/2015 16:10	8/4/2015 17:00	☐
1508139-03	SO-017360-080415-EB-050	Soil		8/4/2015 16:15	8/4/2015 17:00	☐

ALS Group USA, Corp

Date: 07-Aug-15

Client: GHD Services Inc.
Project: Former GRMP (17360)
WorkOrder: **1508139**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: *07-Aug-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-080415-EB-048
Collection Date: 8/4/2015 04:00 PM

Work Order: 1508139
Lab ID: 1508139-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 8/5/15		Analyst: **RS**
2-Methylnaphthalene	U		3.0	8.7	µg/Kg-dry	1	8/6/2015 00:28
Acenaphthene	U		3.3	8.7	µg/Kg-dry	1	8/6/2015 00:28
Acenaphthylene	**5.6**	J	**2.7**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Anthracene	**21**		**4.2**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Benzo(a)anthracene	**190**		**5.3**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Benzo(a)pyrene	**230**		**1.8**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Benzo(b)fluoranthene	**330**		**3.0**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Benzo(g,h,i)perylene	**240**		**3.8**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Benzo(k)fluoranthene	**110**		**5.4**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Chrysene	**220**		**7.3**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Dibenzo(a,h)anthracene	**62**		**2.8**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Fluoranthene	**300**		**5.3**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Fluorene	U		4.8	8.7	µg/Kg-dry	1	8/6/2015 00:28
Indeno(1,2,3-cd)pyrene	**270**		**5.4**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Naphthalene	U		2.3	8.7	µg/Kg-dry	1	8/6/2015 00:28
Phenanthrene	**80**		**4.8**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Pyrene	**260**		**6.6**	**8.7**	**µg/Kg-dry**	1	8/6/2015 00:28
Surr: 2-Fluorobiphenyl	*54.2*			*12-100*	*%REC*	1	8/6/2015 00:28
Surr: 4-Terphenyl-d14	*70.5*			*25-137*	*%REC*	1	8/6/2015 00:28
Surr: Nitrobenzene-d5	*61.4*			*37-107*	*%REC*	1	8/6/2015 00:28
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**24**		**0.025**	**0.050**	**% of sample**	1	8/5/2015 14:26

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *07-Aug-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-080415-EB-049
Collection Date: 8/4/2015 04:10 PM

Work Order: 1508139
Lab ID: 1508139-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 8/5/15		Analyst: **RS**
2-Methylnaphthalene	**3.5**	J	**2.4**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Acenaphthene	U		2.6	6.9	µg/Kg-dry	1	8/5/2015 21:33
Acenaphthylene	U		2.1	6.9	µg/Kg-dry	1	8/5/2015 21:33
Anthracene	**5.9**	J	**3.3**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Benzo(a)anthracene	**36**		**4.2**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Benzo(a)pyrene	**36**		**1.5**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Benzo(b)fluoranthene	**50**		**2.4**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Benzo(g,h,i)perylene	**25**		**3.0**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Benzo(k)fluoranthene	**20**		**4.3**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Chrysene	**32**		**5.8**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Dibenzo(a,h)anthracene	U		2.2	6.9	µg/Kg-dry	1	8/5/2015 21:33
Fluoranthene	U		4.2	6.9	µg/Kg-dry	1	8/5/2015 21:33
Fluorene	U		3.8	6.9	µg/Kg-dry	1	8/5/2015 21:33
Indeno(1,2,3-cd)pyrene	**57**		**4.3**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Naphthalene	U		1.8	6.9	µg/Kg-dry	1	8/5/2015 21:33
Phenanthrene	**20**		**3.8**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Pyrene	**48**		**5.2**	**6.9**	**µg/Kg-dry**	1	8/5/2015 21:33
Surr: 2-Fluorobiphenyl	*61.7*			*12-100*	*%REC*	1	8/5/2015 21:33
Surr: 4-Terphenyl-d14	*80.1*			*25-137*	*%REC*	1	8/5/2015 21:33
Surr: Nitrobenzene-d5	*74.0*			*37-107*	*%REC*	1	8/5/2015 21:33
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**4.9**		**0.025**	**0.050**	**% of sample**	1	8/5/2015 14:26

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *07-Aug-15*

Client: GHD Services Inc.
Project: Former GRMP (17360)
Sample ID: SO-017360-080415-EB-050
Collection Date: 8/4/2015 04:15 PM

Work Order: 1508139
Lab ID: 1508139-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3550 / 8/5/15		Analyst: **RS**
2-Methylnaphthalene	**100**		**26**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Acenaphthene	**720**		**28**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Acenaphthylene	**48**	J	**23**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Anthracene	**2,000**		**36**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Benzo(a)anthracene	**5,000**		**45**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Benzo(a)pyrene	**4,000**		**16**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Benzo(b)fluoranthene	**5,800**		**25**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Benzo(g,h,i)perylene	**2,500**		**32**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Benzo(k)fluoranthene	**2,200**		**47**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Chrysene	**5,200**		**63**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Dibenzo(a,h)anthracene	**880**		**24**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Fluoranthene	**12,000**		**46**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Fluorene	**690**		**41**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Indeno(1,2,3-cd)pyrene	**3,200**		**46**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Naphthalene	**100**		**19**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Phenanthrene	**6,800**		**41**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Pyrene	**6,600**		**56**	**74**	**µg/Kg-dry**	10	8/6/2015 00:47
Surr: 2-Fluorobiphenyl	*47.6*			*12-100*	*%REC*	10	8/6/2015 00:47
Surr: 4-Terphenyl-d14	*44.4*			*25-137*	*%REC*	10	8/6/2015 00:47
Surr: Nitrobenzene-d5	*47.4*			*37-107*	*%REC*	10	8/6/2015 00:47
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	8/5/2015 14:26

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **74434** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-74434-74434** Units: **µg/Kg** Analysis Date: **8/5/2015 08:35 PM**

Client ID: Run ID: **SVMS8_150805A** SeqNo: **3405265** Prep Date: **8/5/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	6.7								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Phenanthrene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*997.3*	0	*1667*	0	*59.8*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1505*	0	*1667*	0	*90.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1204*	0	*1667*	0	*72.2*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **74434** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-74434-74434** Units: **µg/Kg** Analysis Date: **8/5/2015 08:54 PM**
Client ID: Run ID: **SVMS8_150805A** SeqNo: **3405266** Prep Date: **8/5/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	424	6.7	666.7	0	63.6	45-105	0			
Acenaphthene	438	6.7	666.7	0	65.7	45-110	0			
Acenaphthylene	455.7	6.7	666.7	0	68.3	45-105	0			
Anthracene	565	6.7	666.7	0	84.7	55-105	0			
Benzo(a)anthracene	584.7	6.7	666.7	0	87.7	50-110	0			
Benzo(a)pyrene	599.3	6.7	666.7	0	89.9	50-110	0			
Benzo(b)fluoranthene	610.3	6.7	666.7	0	91.5	45-115	0			
Benzo(g,h,i)perylene	563.7	6.7	666.7	0	84.5	40-125	0			
Benzo(k)fluoranthene	607.3	6.7	666.7	0	91.1	45-115	0			
Chrysene	550	6.7	666.7	0	82.5	55-110	0			
Dibenzo(a,h)anthracene	571.7	6.7	666.7	0	85.7	40-125	0			
Fluoranthene	595.3	6.7	666.7	0	89.3	55-115	0			
Fluorene	495.3	6.7	666.7	0	74.3	50-110	0			
Indeno(1,2,3-cd)pyrene	577	6.7	666.7	0	86.5	40-120	0			
Naphthalene	389	6.7	666.7	0	58.3	40-105	0			
Phenanthrene	515.3	6.7	666.7	0	77.3	50-110	0			
Pyrene	607.3	6.7	666.7	0	91.1	45-125	0			
Surr: 2-Fluorobiphenyl	*969*	0	*1667*	0	*58.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1464*	0	*1667*	0	*87.8*	*25-137*	0			
Surr: Nitrobenzene-d5	*1087*	0	*1667*	0	*65.2*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **74434** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1508139-02A MS** Units: **µg/Kg** Analysis Date: **8/5/2015 09:14 PM**
Client ID: **SO-017360-080415-EB-049** Run ID: **SVMS8_150805A** SeqNo: **3405267** Prep Date: **8/5/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	423.2	6.6	655.7	3.286	64	45-105	0			
Acenaphthene	426.8	6.6	655.7	0	65.1	45-110	0			
Acenaphthylene	459.3	6.6	655.7	0	70	45-105	0			
Anthracene	524.5	6.6	655.7	5.587	79.1	55-105	0			
Benzo(a)anthracene	571.7	6.6	655.7	34.51	81.9	50-110	0			
Benzo(a)pyrene	564.2	6.6	655.7	34.18	80.8	50-110	0			
Benzo(b)fluoranthene	592.7	6.6	655.7	47.32	83.2	45-115	0			
Benzo(g,h,i)perylene	544.8	6.6	655.7	23.33	79.5	40-125	0			
Benzo(k)fluoranthene	553.7	6.6	655.7	19.06	81.5	45-115	0			
Chrysene	538.6	6.6	655.7	30.56	77.5	55-110	0			
Dibenzo(a,h)anthracene	513	6.6	655.7	0	78.2	40-125	0			
Fluoranthene	641.5	6.6	655.7	0	97.8	55-115	0			
Fluorene	485.2	6.6	655.7	0	74	50-110	0			
Indeno(1,2,3-cd)pyrene	566.8	6.6	655.7	54.55	78.1	40-120	0			
Naphthalene	391.4	6.6	655.7	0	59.7	40-105	0			
Phenanthrene	513	6.6	655.7	18.73	75.4	50-110	0			
Pyrene	590.1	6.6	655.7	46.01	83	45-125	0			
Surr: 2-Fluorobiphenyl	*968*	0	*1639*	0	*59.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1265*	0	*1639*	0	*77.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1136*	0	*1639*	0	*69.3*	*37-107*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1508139
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **74434** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1508139-02A MSD** Units: **µg/Kg** Analysis Date: **8/5/2015 09:53 PM**
Client ID: **SO-017360-080415-EB-049** Run ID: **SVMS8_150805A** SeqNo: **3405270** Prep Date: **8/5/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	417.9	6.6	659.2	3.286	62.9	45-105	423.2	1.27	30	
Acenaphthene	404.4	6.6	659.2	0	61.3	45-110	426.8	5.4	30	
Acenaphthylene	432.7	6.6	659.2	0	65.6	45-105	459.3	5.95	30	
Anthracene	515.1	6.6	659.2	5.587	77.3	55-105	524.5	1.81	30	
Benzo(a)anthracene	545.8	6.6	659.2	34.51	77.6	50-110	571.7	4.64	30	
Benzo(a)pyrene	544.4	6.6	659.2	34.18	77.4	50-110	564.2	3.56	30	
Benzo(b)fluoranthene	574.1	6.6	659.2	47.32	79.9	45-115	592.7	3.19	30	
Benzo(g,h,i)perylene	517.4	6.6	659.2	23.33	75	40-125	544.8	5.16	30	
Benzo(k)fluoranthene	530.9	6.6	659.2	19.06	77.7	45-115	553.7	4.2	30	
Chrysene	521	6.6	659.2	30.56	74.4	55-110	538.6	3.31	30	
Dibenzo(a,h)anthracene	504.2	6.6	659.2	0	76.5	40-125	513	1.73	30	
Fluoranthene	632.8	6.6	659.2	0	96	55-115	641.5	1.38	30	
Fluorene	449.5	6.6	659.2	0	68.2	50-110	485.2	7.63	30	
Indeno(1,2,3-cd)pyrene	546.1	6.6	659.2	54.55	74.6	40-120	566.8	3.72	30	
Naphthalene	391.9	6.6	659.2	0	59.4	40-105	391.4	0.113	30	
Phenanthrene	502.9	6.6	659.2	18.73	73.5	50-110	513	1.99	30	
Pyrene	598.8	6.6	659.2	46.01	83.9	45-125	590.1	1.47	30	
Surr: 2-Fluorobiphenyl	*917.2*	0	*1648*	0	*55.7*	*12-100*	968	*5.4*	*40*	
Surr: 4-Terphenyl-d14	*1238*	0	*1648*	0	*75.1*	*25-137*	1265	*2.2*	*40*	
Surr: Nitrobenzene-d5	*1107*	0	*1648*	0	*67.2*	*37-107*	1136	*2.52*	*40*	

The following samples were analyzed in this batch: 1508139-01A 1508139-02A 1508139-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GHD Services Inc.
Work Order: 1508139
Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **R169106** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R169106** Units: **% of sample** Analysis Date: **8/5/2015 02:26 PM**
Client ID: Run ID: **MOIST_150805A** SeqNo: **3405587** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R169106** Units: **% of sample** Analysis Date: **8/5/2015 02:26 PM**
Client ID: Run ID: **MOIST_150805A** SeqNo: **3405586** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15071848-10B DUP** Units: **% of sample** Analysis Date: **8/5/2015 02:26 PM**
Client ID: Run ID: **MOIST_150805A** SeqNo: **3405573** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.25	0.050	0	0	0		5.02	4.48	20	

DUP Sample ID: **1508022-04B DUP** Units: **% of sample** Analysis Date: **8/5/2015 02:26 PM**
Client ID: Run ID: **MOIST_150805A** SeqNo: **3405578** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.91	0.050	0	0	0		19.52	3.17	20	

The following samples were analyzed in this batch: 1508139-01A 1508139-02A 1508139-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Cincinnati, OH +1 513 733 5336
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Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 17779

ALS Project Manager: Chad Whelton

ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Former GRMP	A	PAHs
Work Order		Project Number	017360-T03415-02415	B	
Company Name	GHD	Bill To Company		C	
Send Report To	Carl Bottenberg / J. Quigley	Invoice Attn		D	
Address	200 W. Allegan Ste 300	Address		E	
City/State/Zip	Plainwell MI	City/State/Zip		F	
Phone	269 685 5181	Phone		G	
Fax		Fax		H	
e-Mail Address	Carl.bottenberg@ghd.com	e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SD-017360-0804T5-EB-048	8-4-15	1600	SO	none	1	X		Potential Asbestos contam								
2	-049		1610				X										
3	-050		1615				X										
4																	
5																	
6																	
7																	
8																	
9			8-4-15														
10																	

Sampler(s) Please Print & Sign: Carl Bottenberg

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	8-4-15	1700	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	8/4/15	1760	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
KJ	8/5/15	0800	

Notes:

Cooler ID	Cooler Temp
	4.6°C

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☒ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GHD - PLYMOUTH** Date/Time Received: **04-Aug-15 17:00**

Work Order: **1508139** Received by: **KRW**

Checklist completed by Keith Wierenga eSignature 05-Aug-15 Date Reviewed by: Chad Whelton eSignature 05-Aug-15 Date

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.6/4.6 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/5/2015 8:09:27 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

29-Jun-2015

Rawa Fleisher
Conestoga-Rovers & Associates
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former GRMP (17360)** Work Order: **15061470**

Dear Rawa,

ALS Environmental received 4 samples on 25-Jun-2015 08:25 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 29-Jun-15

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
Work Order: **15061470**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15061470-01	SO-017360-062415-EB-001	Tclp Extract		6/24/2015 15:10	6/25/2015 08:25	☐
15061470-02	SO-017360-062415-EB-002	Tclp Extract		6/24/2015 15:38	6/25/2015 08:25	☐
15061470-03	SO-017360-062415-EB-003	Tclp Extract		6/24/2015 16:00	6/25/2015 08:25	☐
15061470-04	SO-017360-062415-EB-004	Tclp Extract		6/24/2015 16:10	6/25/2015 08:25	☐

ALS Group USA, Corp

Date: 29-Jun-15

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
WorkOrder: **15061470**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *29-Jun-15*

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
Sample ID: SO-017360-062415-EB-001
Collection Date: 6/24/2015 03:10 PM

Work Order: 15061470
Lab ID: 15061470-01
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep: SW3005A / 6/26/15		Analyst: **ML**
BatchID: 72804							
Lead	**0.011**	J	**0.0010**	**0.050**	**mg/L**	1	6/26/2015 16:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *29-Jun-15*

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
Sample ID: SO-017360-062415-EB-002
Collection Date: 6/24/2015 03:38 PM

Work Order: 15061470
Lab ID: 15061470-02
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep: SW3005A / 6/26/15		Analyst: **ML**
BatchID: 72804							
Lead	**0.012**	J	**0.0010**	**0.050**	**mg/L**	1	6/26/2015 16:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *29-Jun-15*

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
Sample ID: SO-017360-062415-EB-003
Collection Date: 6/24/2015 04:00 PM

Work Order: 15061470
Lab ID: 15061470-03
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep: SW3005A / 6/26/15		Analyst: **ML**
BatchID: 72804							
Lead	**0.20**		**0.0010**	**0.050**	**mg/L**	1	6/26/2015 16:52

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *29-Jun-15*

Client: Conestoga-Rovers & Associates
Project: Former GRMP (17360)
Sample ID: SO-017360-062415-EB-004
Collection Date: 6/24/2015 04:10 PM

Work Order: 15061470
Lab ID: 15061470-04
Matrix: TCLP EXTRACT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS ANALYSIS BY ICP-MS			**SW6020A**		Prep: SW3005A / 6/26/15		Analyst: **ML**
BatchID: 72804							
Lead	**0.0053**	J	**0.0010**	**0.050**	**mg/L**	1	6/26/2015 16:57

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 29-Jun-15

Client: Conestoga-Rovers & Associates

Work Order: 15061470

Project: Former GRMP (17360)

QC BATCH REPORT

Batch ID: **72804** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-72804-72804** Units: **mg/L** Analysis Date: **6/26/2015 01:17 PM**

Client ID: Run ID: **ICPMS2_150626A** SeqNo: **3343352** Prep Date: **6/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.0050								

LCS Sample ID: **LCS-72804-72804** Units: **mg/L** Analysis Date: **6/26/2015 01:23 PM**

Client ID: Run ID: **ICPMS2_150626A** SeqNo: **3343353** Prep Date: **6/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.09366	0.0050	0.1	0	93.7	80-120	0			

MS Sample ID: **15061331-04CMS** Units: **mg/L** Analysis Date: **6/26/2015 01:53 PM**

Client ID: Run ID: **ICPMS2_150626A** SeqNo: **3343359** Prep Date: **6/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.09399	0.0050	0.1	-2.715E-05	94	75-125	0			

MSD Sample ID: **15061331-04CMSD** Units: **mg/L** Analysis Date: **6/26/2015 01:58 PM**

Client ID: Run ID: **ICPMS2_150626A** SeqNo: **3343360** Prep Date: **6/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.09492	0.0050	0.1	-2.715E-05	94.9	75-125	0.09399	0.985	20	

The following samples were analyzed in this batch:

15061470-01A	15061470-02A	15061470-03A
15061470-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

CHAIN OF CUSTODY RECORD

COC NO.: PL- 10838
PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 017360-T03415-02415	**Laboratory Name:** ALS	**Lab Location:** Holland	**SSOW ID:** 017360
Project Name: Former Grand Rapids Mall	**Lab Contact:** Chad Whitehouse	**Lab Quote No:**	**Cooler No:** -
Project Location: Wyoming, MI			**Carrier:** drop @ lab
Chemistry Contact: Raun Fleischer			**Airbill No:**
Sampler(s): E. Bateborg			**Date Shipped:**

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other	Total Containers/Sample	Analysis Requested: TCLP-Pb							NaHSO Request	Comments/ Special Instructions:
1	SO-017360-02415-EB-001	6/24/15	1510	SO	G									1	X								
2	-002		1538											1	X								Report TCLP lead Only
3	-003		1800											1	X								
4	-004		1610											1	X								
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

TAT Required In business days (use separate COCs for different TATs):
☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other: 1

Total Number of Containers: 4

All Samples In Cooler must be on COC

Notes/ Special Requirements: 4.8°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	6-25-15	825	1.	ALS	6/25/15	0825
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT—ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE—Fully Executed Copy (CRA) YELLOW—Receiving Laboratory Copy PINK—Shipper GOLDENROD—Sampling Crew

CRA Form: COC-10A (20110804)

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **CRA - PLYMOUTH** Date/Time Received: **25-Jun-15 08:25**

Work Order: **15061470** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 25-Jun-15 (Date) Reviewed by: Lee Arnold (eSignature) 25-Jun-15 (Date)

Matrices: Soil

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/25/2015 8:43:16 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Appendix E
PFC and 1,4-Dioxane Groundwater Sampling Results Memorandum

Memorandum

February 12, 2018

To:	Darlene Pearson, MDEQ	Ref. No.:	017360-T08Y17
From:	Jeni Quigley/md/92 JQ	Tel:	269.685.2725
cc:	Dave Favero, RACER Trust		
Subject:	**PFC and 1,4-dioxane Groundwater Sampling Results Former Grand Rapids Metal Plant Wyoming, Michigan**		

1. Introduction

GHD, on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, conducted groundwater sampling activities at the former Grand Rapids Metal Plant Property located at 300 36th Street SW in Wyoming, Michigan (Site). The purpose of the groundwater sampling was to evaluate for the potential presence of 1,4-dioxane and Perfluorinated Chemicals (PFCs), including Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), in groundwater based on historical operations conducted at the Site. The samples were collected during the field event conducted on December 12, 2017. Sampling was completed in accordance with the methodology described in the PFC and 1,4-dioxane Sampling Scope of Work (SOW) memorandum submitted on November 17, 2017 to the Michigan Department of Environmental Quality (MDEQ) and approved on November 28, 2017 via email. This memorandum (Memorandum) has been prepared to present the results of the PFC and 1,4-dioxane groundwater sampling activities.

2. Sampling Procedures

The SOW for the PFC and 1,4-dioxane sampling activities conducted at the Site included: the collection and analysis of groundwater samples for PFCs from monitoring wells MW32-12, MW35-12, MW41-12, and MW60-14, and the collection and analysis of groundwater samples for 1,4-dioxane from monitoring wells MW32-12, MW35-12, MW41-12, MW44-12, MW49-13, and MW60-14. The sample locations were selected so one upgradient location was included and with the consideration of their location relative to Areas of Interest (AOIs) and respective historic operations that were the most likely locations on-Site where 1,4-dioxane and PFCs would be present. The monitoring well locations that were utilized for groundwater sampling are presented on Figure 1.

A total of nine groundwater samples, including quality assurance/quality control (QA/QC) samples, were collected from six monitoring wells.

Groundwater samples were collected using standard low flow procedures. New ¼-inch diameter HDPE tubing was utilized in each of the wells sampled. The bottom intake of the tubing was set in the middle of the screened interval for each of the wells. All wells were purged with a peristaltic pump using low flow purge

(LFP) techniques. Wells were purged between 100 and 150 milliliters (mL) per minute with continuous monitoring to confirm less than 0.3 feet of drawdown of the water level. Groundwater quality measurements were recorded in consecutive timed intervals using an YSI® water quality meter and HACH® turbidity meter. Groundwater quality parameters includes pH, specific conductivity, temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), and turbidity. Upon stabilization of field measured water quality parameters, based on three consecutive similar readings, groundwater samples were collected. Details of the sample procedures are presented in Attachment A (OBG Procedures). The sampling procedures were intended to prevent cross contamination of samples by PFCs. Field staff worked to ensure that samples were collected consistent with these procedures; however, due to hazardous winter weather conditions (i.e., potential cold stress) field staff were required to wear jackets that were not prescribed for use in standard PFC sampling procedures. Rinse blank and field blank samples were collected to evaluate if any cross contamination occurred, which is discussed further in Section 3.

3. Analytical Results

Samples were analyzed for 1,4-dioxane by TestAmerica Laboratories, Inc. (TA) in North Canton, Ohio using the analytical method SW-846-8260 SIM. TA in North Canton, Ohio subcontracted the PFC analysis to TA in West Sacramento, California. Samples were analyzed for PFCs by TA in West Sacramento, California using the analytical method Modified Method 537.

Analytical results for groundwater samples were evaluated against the Generic Residential and Non Residential Cleanup Criteria and Screening Levels established in Part 7 of Administrative Rules, effective December 30, 2013, pursuant to Part 201, Environmental Remediation, 1994 PA 451, as amended. The 1, 4-dioxane Rule package, Cleanup Criteria Requirements for Response Activity, specific to the residential drinking water criterion was promulgated on October 20, 2017. The MDEQ developed residential and nonresidential drinking water criteria for PFOA and PFOS that took effect on January 10, 2018. Analytical results for groundwater compared to the aforementioned criteria are presented in Table 1.

A QA/QC data validation was conducted on the analytical laboratory data. Copies of analytical laboratory data and data validation memorandum summarizing the results of the data validation are presented in Attachment B and Attachment C, respectively. Estimated concentrations are identified in the tables of the memorandum that include qualifications due to contamination in the method blank. Based on the review of the data validation memorandum, the data produced were found to exhibit acceptable levels of accuracy and precision and may be used with the qualifications noted in the tables in the data validation memoranda. Data was qualified for the groundwater samples collected at the listed monitoring wells for the following analytes due to the detection of the analyte in the method blank: 1,4-dioxane for the groundwater samples collected from MW49-13 and MW35-12; perfluorobutane sulfonate for the groundwater samples collected from MW32-12, MW35-12, MW60-14, and MW41-12; perfluorodecanoic acid for the groundwater sample collected from MW32-12; perfluoroheptane sulfonate for the groundwater sample collected at MW32-12; perflluoro-n-Octanoic acid for the groundwater sample collected at MW60-14; perfluorooctane sulfonamide for the groundwater samples collected at MW32-12, MW35-12, and MW60-14; perfluoroononanoic acid for the groundwater samples collected at MW35-12, MW60-14, and MW41-12; and perfluorohexane sulfonate for the groundwater samples collected at MW32-12, MW35-12, MW60-14, MW41-12. Additional details

regarding the qualified data are presented in the data validation memorandum included in Attachment C. The data qualifications do not affect the conclusions presented in this report.

A rinse blank sample and field blank sample were collected to assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers to determine if cross contamination of PFCs occurred during sampling. Rinse blank and field blank analysis yielded low-level detections of target PFCs, however, the sample detections were qualified non-detect based on method blank results.

4. Conclusions

PFCs and 1,4-dioxane were detected at the Site below the Generic Residential and Non Residential Cleanup Criteria and Screening Levels. Based on the lack of criteria exceedances and Declaration of Restrictive Covenant that prohibits the installation of drinking water, irrigation, or other extraction wells, additional sampling is not necessary to further evaluate the presence of 1,4-dioxane and PFCs in groundwater at the Site.

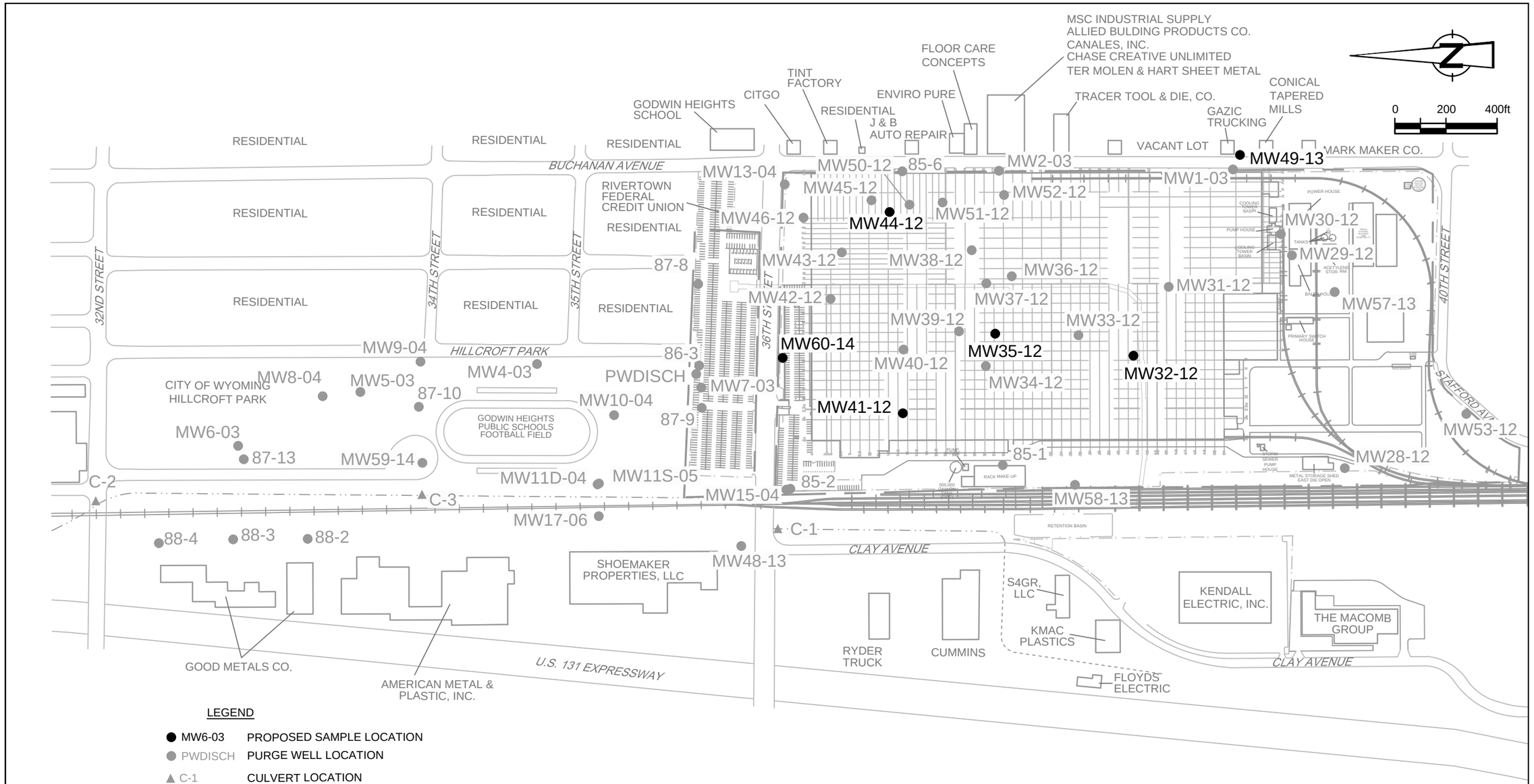


figure 1

SAMPLE LOCATIONS
PFC AND 1,4-DIOXANE SAMPLING
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

Table 1

Groundwater Sample Analytical Results
PFC and 1,4-dioxane Sampling Event
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Sample Location:		**MDEQ Generic Groundwater Cleanup Criteria:** [1]						
Sample Identification:		Residential	Non-Residential	Groundwater	Residential Groundwater	Non-Residential Groundwater	Water	Flammability and
Sample Date:		Drinking Water	Drinking Water	Surface Water	Volatilization to	Volatilization to	Solubility	Explosivity
Sample Type:				Interface	Indoor Air Inhalation	Indoor Air Inhalation		Screening Levels
Segment_Depth		a	b	c	d	e	f	g
AOI								
Parameters	**Units**							
Volatile Organic Compounds (VOCs)								
1,4-Dioxane	ug/L	7.2	350	2800	NLV	NLV	900000000	140000000
Semi-Volatile Organic Compounds (SVOCs)								
Perfluorhexanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoro-n-Octanoic acid (PFOA)	ug/L	0.070	0.070	12	ID	ID	9500000	NA
Perfluorooctane sulfonamide	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane sulfonate (PFOS)	ug/L	0.070	0.070	0.012	NLV	NLV	3.1	NA
Perfluorononanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic acid	ug/L	NA	NA	NA	NA	NA	NA	NA
Perflurorohexane sulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	NA	NA	NA	NA	NA	NA	NA
Sum of PFOS and PFOA	ug/L	0.070	0.070	NA	NA	NA	NA	NA

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLV - Hazardous substance is not likely to volatilize under most conditions.
ID - Insufficient data to develop criterion
[1] MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.

Table 1

Groundwater Sample Analytical Results
PFC and 1,4-dioxane Sampling Event
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Sample Location:		**MW32-12**	**MW35-12**	**MW41-12**	**MW44-12**	**MW49-13**	**MW49-13**	**MW60-14**	**Equipment Blank**	**Field Blank**
Sample Identification:		**GW-17360-121217-SK-004**	**GW-17360-121217-SK-005**	**GW-17360-121217-SK-007**	**GW-17360-121217-SK-001**	**GW-17360-121217-SK-002**	**GW-17360-121217-SK-003**	**GW-17360-121217-SK-006**	**W-17360-121217-SK-009**	**W-17360-121217-SK-008**
Sample Date:		**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**
Sample Type:							**Duplicate**			
Segment_Depth		**(13.9-23.9) ft BGS**	**(24.6-29.6) ft BGS**	**(18.3-28.3) ft BGS**	**(18.5-28.5) ft BGS**	**(34-39) ft BGS**	**(34-39) ft BGS**	**(21-26) ft BGS**		
AOI		**AOI 7.1, AOI 26.2**	**AOI 25, AOI 4.1**	**AOI 11**	**AOI 6, AOI 25, AOI 19, AOI 4.1**	**AOI 1**	**AOI 1**	**AOI 25**		
Parameters	**Units**									
Volatile Organic Compounds (VOCs)										
1,4-Dioxane	ug/L	2.0 U	2.0 U	2.0 U	0.39 J	2.0 U	2.0 U	2.0 U	--	--
Semi-Volatile Organic Compounds (SVOCs)										
Perfluorhexanoic acid	ug/L	0.085	0.02	0.1	--	--	--	0.05	0.002 U	0.002 U
Perfluorobutane sulfonate	ug/L	0.0027 U	0.0021 U	0.0022 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluorobutanoic acid	ug/L	0.061	0.017	0.065	--	--	--	0.025	0.002 U	0.002 U
Perfluorodecanesulfonic acid	ug/L	0.0065	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluorodecanoic acid	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluorododecanoic acid	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluoroheptane sulfonate	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluoroheptanoic acid	ug/L	0.073	0.019	0.013	--	--	--	0.021	0.002 U	0.002 U
Perfluoro-n-Octanoic acid (PFOA)	ug/L	0.039	0.014	0.0021 U	--	--	--	0.0029 U	0.002 U	0.002 U
Perfluorooctane sulfonamide	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.00039 J	0.002 U
Perfluorooctane sulfonate (PFOS)	ug/L	0.013	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluorononanoic acid	ug/L	0.007	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluoropentanoic acid	ug/L	0.24	0.051	0.19	--	--	--	0.066	0.002 U	0.002 U
Perfluorotetradecanoic acid	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluorotridecanoic acid	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perfluoroundecanoic acid	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0022 U	0.002 U	0.002 U
Perflurorohexane sulfonate	ug/L	0.0022 U	0.0021 U	0.0021 U	--	--	--	0.0025 U	0.00032 J	0.00035 J
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ug/L	0.0062 J	0.021 U	0.021 U	--	--	--	0.022 U	0.02 U	0.02 U
Sum of PFOS and PFOA	ug/L	0.052	0.014	ND	--	--	--	ND	--	--

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.
NA - A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLV - Hazardous substance is not likely to volatilize under most conditions.
ID - Insufficient data to develop criterion
(1) MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended.

Attachment A
OBG Groundwater Sampling Procedure

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2 Procedural Guidelines 1
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2.5 Quality Assurance/Quality Control (QA/QC) Measures 3
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1 INTRODUCTION

This procedure is for the collection of groundwater samples for laboratory analysis.

The objective of most groundwater quality monitoring programs is to obtain samples that are representative of existing groundwater conditions, or samples that retain the physical and chemical properties of the groundwater within an aquifer.

One of the most important aspects of groundwater sampling is acquiring samples that are free of suspended silt, sediment, or other fine grained particulates. Fine grain materials may often have a variety of chemical components sorbed to the particle or have the ability to sorb chemicals from the aqueous phase to the particle, which will bias the subsequent analytical results.

Constituents known to have an affinity for fine-grained particulates are: polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and inorganics. Monitoring programs where these constituents are suspected or known to be prevalent must employ sampling methods that minimize particulate presence.

The "Low Stress/Low Flow" purging and sampling method will be utilized to purge the well to allow representative water from the formation to replace the standing water within the sampling zone of the well. Experience has shown that the low stress/low flow technique typically achieves representative groundwater samples with minimal particulate interference.

Lastly, in extreme cases "ultra-low flow" techniques have been employed at select sites where low stress/low flow methods were used, yet particulate-sensitive constituents continue to bias the analytical results, or excessive drawdown is produced using standard low stress/low flow methods due to the presence of low permeability materials within a well's screened zone. Ultra-low flow techniques are conducted at purging rates below 100 ml per minute, and should only be utilized after low stress/low flow methods have been attempted.

2 PROCEDURAL GUIDELINES

The following describes techniques for groundwater sampling: Low Stress/Low Flow Methods.

Low stress/low flow methods will be employed when it is critical to collect groundwater samples truly representative of the groundwater present, and to minimize the impact of sediment/colloid presence.

2.1 PREPARATORY REQUIREMENTS

Prior to groundwater sampling, an inspection will be performed on each well. The inspection will include:

- Inspecting the concrete pad for cracks
- Inspecting the protective steel cover
- Inspecting the integrity of the PVC well casing (to the extent possible)
- Inspecting the well caps
- Inspecting the well identification markings to confirm they are legible (if illegible, re-mark)
- Inspecting the locks to assess whether they are in good working condition.

Results of the well inspection will be documented on the Groundwater Sampling Log for each well. If the inspection indicates repairs are required, these will be performed prior to the next sampling event. Corrective actions implemented to repair well(s) will also be documented on the Groundwater Sampling Log and/or the field notebook for the facility.

Groundwater purging and sampling data will be recorded on the Groundwater Sampling Log.

2.2 WELL PURGING AND STABILIZATION MONITORING (LOW STRESS/LOW FLOW METHOD)

The procedure for sampling the monitoring wells is as follows:

1) Sampling equipment will first be decontaminated prior to each use by the following protocol:
   - Scrub equipment thoroughly in a low-sudsing detergent solution (*e.g.*, Alconox). Pump low-sudsing detergent solution through submersible pump for approximately 5 minutes, if utilized
   - Rinse equipment thoroughly with distilled water, and pump distilled water through submersible pump, if utilized
   - Wrap equipment in plastic for handling and/or storage until next use
   - Decontamination of disposable tubing, if used, will not be necessary
2) Calibrate field instrument and document calibration activity. Calibration shall be performed in accordance with manufacturer's recommendations, and noted on the Groundwater Sampling Log
3) An electric water level probe will be used to measure the depth from the top of the casing to the top of water to the nearest 0.01-ft. The measurement will be recorded in a dedicated field notebook and Groundwater Sampling Log
4) Measure the depth from the top of casing to the bottom of the well for the initial sampling event
5) Slowly lower the pump and/or tubing into the well positioning the pump intake at the mid-point of the well screen taking care to minimize disturbing the well
6) During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction (redox) reaction potential (ORP), dissolved oxygen (DO), and turbidity) approximately every 5 minutes. Stabilization is considered achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameter are within the following limits:

pH	±0.1 pH units for three consecutive readings;
temperature	±3 percent for three consecutive readings;
conductivity	±3 percent for three consecutive readings;
ORP	±10 millivolts (mV) for three consecutive readings;
DO	±10 percent for three consecutive readings; and
Turbidity	±10 percent for three consecutive readings or a final value of less than 5 nephelometric turbidity units (NTU).

7) Verify that drawdowns of 0.3 ft or less are maintained and make adjustments as necessary. Record drawdown measurements and note adjustments in pumping rates as necessary on the Groundwater Sampling Log. If drawdowns of 0.3 ft or less cannot be maintained utilize ultra-low flow purge techniques. However, if ultra-low flow purging still results in the well purging "dry," allow the well to recharge and the sample will be collected as soon as sufficient water is present to obtain the necessary sample volume

8) Obtain a sample for chemical analyses immediately upon stabilization of field parameter measurements. Field filter the sample for dissolved metals using a 0.45-micron filter prior to preserving with acid. Samples are to be collected in the order of volatility as follows: TOC/TOX (or VOCs) and dissolved metals.

If after 2 hours of purging the indicator parameters have not stabilized, as recommended in the USEPA guidance, the purging will be discontinued and the sample will be collected with an explanation of attempts to achieve stabilization.

Either a decontaminated submersible pump or peristaltic pump (for shallow wells only) may be utilized to purge each well. If a submersible pump is utilized in the purging process, then it will be decontaminated prior to and after sampling each well. Sampling equipment must be protected from the ground surface by a clean plastic sheet laid around the work area. Water from purging will not be containerized.

2.3 SAMPLE PRESERVATION

Sample bottles will be labeled with sample identification, collection date and time, filtration/preservative status. Sample bottles will be filled and capped securely and immediately preserved (if required) and stored at 4 degrees Celsius in a cooler.

The cooler and samples will be prepared for shipment or transport by the following procedure:

1) Prepare cooler(s) for shipment.
   - Tape drain(s) of cooler shut
   - Place mailing label with laboratory address on top of cooler(s).
2) Arrange sample containers in a manner to prevent potential sample container breakage.
3) Confirm the bottle labels are completed correctly. Place clear tape over bottle labels to prevent moisture accumulation from causing the label to peel off.
4) Seal sample containers within plastic zip-lock bags to prevent packing material from contacting samples.
5) Place packing material at the bottom of the cooler to act as a cushion for the sample containers.
6) Fill remaining spaces with packing material.
7) Confirm containers are firmly packed in cooler.

8) If ice is required to preserve the samples, cubes should be repackaged in double zip-lock bags, and placed on top of the packing material.

9) Sign COC form (or obtain signature) and indicate the time and date it was relinquished to Federal Express or other carrier, as appropriate.

10) Separate copies of COC forms. Seal proper copies within a large zip-lock bag and tape to inside lid of cooler. Retain copies of forms in-house.

11) Close lid and latch.

12) Tape cooler shut on both ends, making several complete revolutions with strapping tape.

13) Relinquish to Federal Express or other courier service. Retain airbill receipt for project records (Note: Samples will be shipped for "NEXT DAY" delivery).

If samples are delivered directly to the laboratory, or the laboratories in-house courier, by the sampling team, the packaging/shipping requirements may be omitted. COC procedures; however, must be strictly maintained.

2.4 SAMPLE MANAGEMENT AND CHAIN-OF-CUSTODY

COC procedures document the history of sample containers and samples from the time of preparation of sample containers through sample collection, shipment, and analysis. A sample is considered in custody if:

- The sample is in the sampler's physical possession
- The sample is secured by the sampler to prevent tampering
- The sample is secured by the sampler employee in an area that is restricted to authorized personnel.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, a COC record will be completed for each sample at each sampling location. Each time the samples are transferred, signatures of the person relinquishing and receiving the samples, as well as the date and time, will be documented.

Parallel field notebook/Groundwater Sampling Log and COC records will be maintained. Recorded information will include:

- Sampling Location
- Time and Date
- Sampling Method
- Method of Preservation.

Additionally, the field notebook will also include information on weather conditions, depth to water, total depth of the well, field parameter and instrument calibration records and other useful or pertinent information. The notebook will be kept at the facility or with their designated contractor.

2.5 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) MEASURES

Field QA/QC procedures will consist of collecting one equipment blank (if reusable equipment is used) and one duplicate sample (one additional sample from one of the wells) for each sampling event. The duplicate sample will be assigned a separate sample identification and submitted to the laboratory "blind".

The procedure for collecting an equipment blank will be to pass distilled water through the decontaminated sampling device into a laboratory-supplied sample bottles. An equipment blank sample will not be required if disposable sampling equipment is used.

3 REFERENCES

USEPA Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA/540/S -95/504).

USEPA (Region 1) Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (EQASOP-GW 001), January 19, 2010.

USEPA RCRA Groundwater Monitoring: Draft Technical Guidance (EPA/530-R-93-001).

MDEQ RRD Operational Memorandum No. 2: Sampling and Analysis.

Attachment B
Analytical Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
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North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-89302-1
Client Project/Site: 17360, Former Grand Rapids Metal Fab

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
1/3/2018 4:05:39 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Job ID: 240-89302-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-89302-1

Comments
Insufficient sample for MS MSD for PFC analysis.

Receipt
The samples were received on 12/13/2017 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-6:2FTS is above the method recommended limit for the following continuing calibration verification samples (CCV): (CCV 320-200881/1) and (CCV 320-200881/22). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): The method blank for preparation batch 320-200657 and analytical batch 320-200881 contained several analytes above the method detection limit. These target analyte concentrations were less than the reporting limit (RL). Sample GW-17360-121217-SK-005 (240-89302-5) had additional volume, it was reextracted. All others were reported as is.

Method(s) 537 (modified): Reanalysis of the following sample was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis: GW-17360-121217-SK-005 (240-89302-5). Both sets of data have been reported.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery of M2-6:2FTS is above the method recommended limit for the following sample: GW-17360-121217-SK-005 (240-89302-5). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-201694.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
U	Indicates the analyte was analyzed for but not detected.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-89302-1	GW-17360-121217-SK-001	Water	12/12/17 13:15	12/13/17 10:25
240-89302-2	GW-17360-121217-SK-002	Water	12/12/17 13:01	12/13/17 10:25
240-89302-3	GW-17360-121217-SK-003	Water	12/12/17 13:06	12/13/17 10:25
240-89302-4	GW-17360-121217-SK-004	Water	12/12/17 14:36	12/13/17 10:25
240-89302-5	GW-17360-121217-SK-005	Water	12/12/17 15:15	12/13/17 10:25
240-89302-6	GW-17360-121217-SK-006	Water	12/12/17 15:56	12/13/17 10:25
240-89302-7	GW-17360-121217-SK-007	Water	12/12/17 16:40	12/13/17 10:25
240-89302-8	W-17360-121217-SK-008	Water	12/12/17 16:50	12/13/17 10:25
240-89302-9	W-17360-121217-SK-009	Water	12/12/17 16:55	12/13/17 10:25

Detection Summary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Client Sample ID: GW-17360-121217-SK-001 — Lab Sample ID: 240-89302-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.39	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: GW-17360-121217-SK-002 — Lab Sample ID: 240-89302-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.25	J B	2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: GW-17360-121217-SK-003 — Lab Sample ID: 240-89302-3

No Detections.

Client Sample ID: GW-17360-121217-SK-004 — Lab Sample ID: 240-89302-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	61	B	2.2	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	240	B	2.2	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	85	B	2.2	0.63	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	73	B	2.2	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	39	B	2.2	0.93	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	7.0	B	2.2	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.1	J B	2.2	0.34	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7	B	2.2	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9	J B	2.2	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.24	J B	2.2	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	6.5	B	2.2	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13	B	2.2	0.59	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	1.2	J B	2.2	0.38	ng/L	1		537 (modified)	Total/NA
6:2FTS	6.2	J	22	2.2	ng/L	1		537 (modified)	Total/NA

Client Sample ID: GW-17360-121217-SK-005 — Lab Sample ID: 240-89302-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.28	J B	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Perfluorobutanoic acid (PFBA)	17	B	2.1	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	51	B	2.1	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	20	B	2.1	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	19	B	2.1	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14	B	2.1	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.48	J B	2.1	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J B	2.1	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2	J B	2.1	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	J B	2.1	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.70	J B	2.1	0.36	ng/L	1		537 (modified)	Total/NA

Client Sample ID: GW-17360-121217-SK-006 — Lab Sample ID: 240-89302-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	25	B	2.2	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	66	B	2.2	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	50	B	2.2	0.63	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GW-17360-121217-SK-006 (Continued) — Lab Sample ID: 240-89302-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	21	B	2.2	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.9	B	2.2	0.93	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.78	J B	2.2	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J B	2.2	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5	B	2.2	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J B	2.2	0.59	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.59	J B	2.2	0.38	ng/L	1		537 (modified)	Total/NA

Client Sample ID: GW-17360-121217-SK-007 — Lab Sample ID: 240-89302-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	65	B	2.1	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	190	B	2.1	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	100	B	2.1	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	13	B	2.1	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.34	J B	2.1	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2	B	2.1	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	J B	2.1	0.18	ng/L	1		537 (modified)	Total/NA

Client Sample ID: W-17360-121217-SK-008 — Lab Sample ID: 240-89302-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: W-17360-121217-SK-009 — Lab Sample ID: 240-89302-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.32	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.39	J B	2.0	0.36	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-001
Date Collected: 12/12/17 13:15
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.39**	**J**	2.0	0.24	ug/L			12/18/17 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*63 - 125*		*12/18/17 14:13*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-002
Date Collected: 12/12/17 13:01
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.25	J B	2.0	0.24	ug/L			12/15/17 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*71*		*63 - 125*		*12/15/17 13:29*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-003
Date Collected: 12/12/17 13:06
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			12/15/17 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*71*		*63 - 125*		*12/15/17 13:53*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-004
Date Collected: 12/12/17 14:36
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			12/18/17 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 125*		*12/18/17 14:38*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-005
Date Collected: 12/12/17 15:15
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.28	J B	2.0	0.24	ug/L			12/15/17 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*72*		*63 - 125*		*12/15/17 14:44*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-006
Date Collected: 12/12/17 15:56
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			12/15/17 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*70*		*63 - 125*		*12/15/17 15:58*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-17360-121217-SK-007
Date Collected: 12/12/17 16:40
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			12/15/17 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*71*		*63 - 125*		*12/15/17 16:23*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: GW-17360-121217-SK-004
Date Collected: 12/12/17 14:36
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**61**	**B**	2.2	0.38	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluoropentanoic acid (PFPeA)	**240**	**B**	2.2	0.53	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorohexanoic acid (PFHxA)	**85**	**B**	2.2	0.63	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluoroheptanoic acid (PFHpA)	**73**	**B**	2.2	0.27	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorooctanoic acid (PFOA)	**39**	**B**	2.2	0.93	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorononanoic acid (PFNA)	**7.0**	**B**	2.2	0.29	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorodecanoic acid (PFDA)	**1.1**	**J B**	2.2	0.34	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluoroundecanoic acid (PFUnA)	2.2	U	2.2	1.2	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorododecanoic acid (PFDoA)	2.2	U	2.2	0.60	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorotridecanoic Acid (PFTriA)	2.2	U	2.2	1.4	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorotetradecanoic acid (PFTeA)	2.2	U	2.2	0.32	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**	**B**	2.2	0.22	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**	**J B**	2.2	0.19	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.24**	**J B**	2.2	0.21	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorodecanesulfonic acid (PFDS)	**6.5**	**B**	2.2	0.35	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorooctanesulfonic acid (PFOS)	**13**	**B**	2.2	0.59	ng/L		12/20/17 09:03	12/21/17 01:36	1
Perfluorooctane Sulfonamide (FOSA)	**1.2**	**J B**	2.2	0.38	ng/L		12/20/17 09:03	12/21/17 01:36	1
6:2FTS	**6.2**	**J**	22	2.2	ng/L		12/20/17 09:03	12/21/17 01:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*117*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C4 PFBA	*69*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C4 PFOA	*104*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C5 PFNA	*121*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C2 PFDA	*140*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C2 PFUnA	*128*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C2 PFDoA	*124*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
18O2 PFHxS	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C4 PFOS	*119*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C4-PFHpA	*99*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
13C5 PFPeA	*93*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*
M2-6:2FTS	*129*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:36*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: GW-17360-121217-SK-005
Date Collected: 12/12/17 15:15
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**17**	**B**	2.1	0.36	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluoropentanoic acid (PFPeA)	**51**	**B**	2.1	0.51	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorohexanoic acid (PFHxA)	**20**	**B**	2.1	0.60	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluoroheptanoic acid (PFHpA)	**19**	**B**	2.1	0.26	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorooctanoic acid (PFOA)	**14**	**B**	2.1	0.88	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorononanoic acid (PFNA)	**0.48**	**J B**	2.1	0.28	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorodecanoic acid (PFDA)	2.1	U	2.1	0.32	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluoroundecanoic acid (PFUnA)	2.1	U	2.1	1.1	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorododecanoic acid (PFDoA)	2.1	U	2.1	0.57	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorotridecanoic Acid (PFTriA)	2.1	U	2.1	1.3	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorotetradecanoic acid (PFTeA)	2.1	U	2.1	0.30	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J B**	2.1	0.21	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**	**J B**	2.1	0.18	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.1	U	2.1	0.20	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorodecanesulfonic acid (PFDS)	2.1	U	2.1	0.33	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J B**	2.1	0.56	ng/L		12/20/17 09:03	12/21/17 01:44	1
Perfluorooctane Sulfonamide (FOSA)	**0.70**	**J B**	2.1	0.36	ng/L		12/20/17 09:03	12/21/17 01:44	1
6:2FTS	21	U	21	2.1	ng/L		12/20/17 09:03	12/21/17 01:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*108*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C4 PFBA	*52*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C2 PFHxA	*90*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C5 PFNA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C2 PFDA	*130*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C2 PFUnA	*114*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C2 PFDoA	*115*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C4-PFHpA	*96*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
13C5 PFPeA	*83*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*
M2-6:2FTS	*119*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:44*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: GW-17360-121217-SK-006
Date Collected: 12/12/17 15:56
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**	**B**	2.2	0.38	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluoropentanoic acid (PFPeA)	**66**	**B**	2.2	0.54	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorohexanoic acid (PFHxA)	**50**	**B**	2.2	0.63	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluoroheptanoic acid (PFHpA)	**21**	**B**	2.2	0.27	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorooctanoic acid (PFOA)	**2.9**	**B**	2.2	0.93	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorononanoic acid (PFNA)	**0.78**	**J B**	2.2	0.30	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorodecanoic acid (PFDA)	2.2	U	2.2	0.34	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluoroundecanoic acid (PFUnA)	2.2	U	2.2	1.2	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorododecanoic acid (PFDoA)	2.2	U	2.2	0.60	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorotridecanoic Acid (PFTriA)	2.2	U	2.2	1.4	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorotetradecanoic acid (PFTeA)	2.2	U	2.2	0.32	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**	**J B**	2.2	0.22	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**	**B**	2.2	0.19	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.2	U	2.2	0.21	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorodecanesulfonic acid (PFDS)	2.2	U	2.2	0.35	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**	**J B**	2.2	0.59	ng/L		12/20/17 09:03	12/21/17 01:52	1
Perfluorooctane Sulfonamide (FOSA)	**0.59**	**J B**	2.2	0.38	ng/L		12/20/17 09:03	12/21/17 01:52	1
6:2FTS	22	U	22	2.2	ng/L		12/20/17 09:03	12/21/17 01:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*109*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C4 PFBA	*59*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C2 PFHxA	*91*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C2 PFDA	*132*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C2 PFUnA	*108*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C2 PFDoA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
18O2 PFHxS	*105*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C4-PFHpA	*100*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
13C5 PFPeA	*89*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*
M2-6:2FTS	*107*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:52*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: GW-17360-121217-SK-007
Date Collected: 12/12/17 16:40
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**65**	**B**	2.1	0.36	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluoropentanoic acid (PFPeA)	**190**	**B**	2.1	0.51	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorohexanoic acid (PFHxA)	**100**	**B**	2.1	0.60	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluoroheptanoic acid (PFHpA)	**13**	**B**	2.1	0.26	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorooctanoic acid (PFOA)	2.1	U	2.1	0.88	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorononanoic acid (PFNA)	**0.34**	**J B**	2.1	0.28	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorodecanoic acid (PFDA)	2.1	U	2.1	0.32	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluoroundecanoic acid (PFUnA)	2.1	U	2.1	1.1	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorododecanoic acid (PFDoA)	2.1	U	2.1	0.57	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorotridecanoic Acid (PFTriA)	2.1	U	2.1	1.3	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorotetradecanoic acid (PFTeA)	2.1	U	2.1	0.30	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**	**B**	2.1	0.21	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J B**	2.1	0.18	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.1	U	2.1	0.20	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorodecanesulfonic acid (PFDS)	2.1	U	2.1	0.33	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorooctanesulfonic acid (PFOS)	2.1	U	2.1	0.56	ng/L		12/20/17 09:03	12/21/17 02:00	1
Perfluorooctane Sulfonamide (FOSA)	2.1	U	2.1	0.36	ng/L		12/20/17 09:03	12/21/17 02:00	1
6:2FTS	21	U	21	2.1	ng/L		12/20/17 09:03	12/21/17 02:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*106*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C4 PFBA	*50*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C2 PFHxA	*86*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C4 PFOA	*107*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C5 PFNA	*119*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C2 PFDA	*123*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C2 PFUnA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C2 PFDoA	*119*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
18O2 PFHxS	*110*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C4 PFOS	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C4-PFHpA	*91*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
13C5 PFPeA	*88*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*
M2-6:2FTS	*132*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:00*	*1*

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: W-17360-121217-SK-008
Date Collected: 12/12/17 16:50
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.0	U	2.0	0.36	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.50	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.59	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.87	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.28	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.32	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.56	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorotridecanoic Acid (PFTriA)	2.0	U	2.0	1.3	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.30	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorohexanesulfonic acid (PFHxS)	**0.35**	**J B**	2.0	0.17	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.33	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.55	ng/L		12/20/17 09:03	12/21/17 02:08	1
Perfluorooctane Sulfonamide (FOSA)	2.0	U	2.0	0.36	ng/L		12/20/17 09:03	12/21/17 02:08	1
6:2FTS	20	U	20	2.0	ng/L		12/20/17 09:03	12/21/17 02:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*104*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C4 PFBA	*109*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C2 PFHxA	*111*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C4 PFOA	*108*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C5 PFNA	*117*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C2 PFDA	*121*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C2 PFUnA	*112*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C2 PFDoA	*117*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
18O2 PFHxS	*111*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C4 PFOS	*112*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C4-PFHpA	*117*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
13C5 PFPeA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*
M2-6:2FTS	*67*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:08*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: W-17360-121217-SK-009
Date Collected: 12/12/17 16:55
Date Received: 12/13/17 10:25

Lab Sample ID: 240-89302-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.0	U	2.0	0.36	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.50	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.59	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.87	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.32	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.56	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorotridecanoic Acid (PFTriA)	2.0	U	2.0	1.3	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.30	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorohexanesulfonic acid (PFHxS)	**0.32**	**J B**	2.0	0.17	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.33	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.55	ng/L		12/20/17 09:03	12/21/17 02:15	1
Perfluorooctane Sulfonamide (FOSA)	**0.39**	**J B**	2.0	0.36	ng/L		12/20/17 09:03	12/21/17 02:15	1
6:2FTS	20	U	20	2.0	ng/L		12/20/17 09:03	12/21/17 02:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C4 PFBA	*108*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C2 PFHxA	*110*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C4 PFOA	*107*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C5 PFNA	*117*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C2 PFUnA	*110*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C2 PFDoA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
18O2 PFHxS	*111*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C4-PFHpA	*114*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
13C5 PFPeA	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*
M2-6:2FTS	*69*		*25 - 150*	*12/20/17 09:03*	*12/21/17 02:15*	*1*

GC/MS VOA

Analysis Batch: 307882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-2	GW-17360-121217-SK-002	Total/NA	Water	8260B SIM	
240-89302-3	GW-17360-121217-SK-003	Total/NA	Water	8260B SIM	
240-89302-5	GW-17360-121217-SK-005	Total/NA	Water	8260B SIM	
240-89302-6	GW-17360-121217-SK-006	Total/NA	Water	8260B SIM	
240-89302-7	GW-17360-121217-SK-007	Total/NA	Water	8260B SIM	
MB 240-307882/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-307882/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-89302-5 MS	GW-17360-121217-SK-005	Total/NA	Water	8260B SIM	
240-89302-5 MSD	GW-17360-121217-SK-005	Total/NA	Water	8260B SIM	

Analysis Batch: 308152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-1	GW-17360-121217-SK-001	Total/NA	Water	8260B SIM	
240-89302-4	GW-17360-121217-SK-004	Total/NA	Water	8260B SIM	
MB 240-308152/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-308152/4	Lab Control Sample	Total/NA	Water	8260B SIM	

LCMS

Prep Batch: 200657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-4	GW-17360-121217-SK-004	Total/NA	Water	3535	
240-89302-5	GW-17360-121217-SK-005	Total/NA	Water	3535	
240-89302-6	GW-17360-121217-SK-006	Total/NA	Water	3535	
240-89302-7	GW-17360-121217-SK-007	Total/NA	Water	3535	
240-89302-8	W-17360-121217-SK-008	Total/NA	Water	3535	
240-89302-9	W-17360-121217-SK-009	Total/NA	Water	3535	
MB 320-200657/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-200657/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-200657/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 200881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-4	GW-17360-121217-SK-004	Total/NA	Water	537 (modified)	200657
240-89302-5	GW-17360-121217-SK-005	Total/NA	Water	537 (modified)	200657
240-89302-6	GW-17360-121217-SK-006	Total/NA	Water	537 (modified)	200657
240-89302-7	GW-17360-121217-SK-007	Total/NA	Water	537 (modified)	200657
240-89302-8	W-17360-121217-SK-008	Total/NA	Water	537 (modified)	200657
240-89302-9	W-17360-121217-SK-009	Total/NA	Water	537 (modified)	200657
MB 320-200657/1-A	Method Blank	Total/NA	Water	537 (modified)	200657
LCS 320-200657/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	200657
LCSD 320-200657/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	200657

Prep Batch: 201694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-5 - RE	GW-17360-121217-SK-005	Total/NA	Water	3535	
MB 320-201694/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-201694/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-201694/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

LCMS (Continued)

Analysis Batch: 202092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89302-5 - RE	GW-17360-121217-SK-005	Total/NA	Water	537 (modified)	201694
MB 320-201694/1-A	Method Blank	Total/NA	Water	537 (modified)	201694
LCS 320-201694/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	201694
LCSD 320-201694/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	201694

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-307882/5
Matrix: Water
Analysis Batch: 307882

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.438	J	2.0	0.24	ug/L			12/15/17 12:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*70*		*63 - 125*		*12/15/17 12:14*	*1*

Lab Sample ID: LCS 240-307882/4
Matrix: Water
Analysis Batch: 307882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.88		ug/L		89	59 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*69*		*63 - 125*

Lab Sample ID: 240-89302-5 MS
Matrix: Water
Analysis Batch: 307882

Client Sample ID: GW-17360-121217-SK-005
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.28	J B	10.0	8.47		ug/L		82	52 - 129

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*72*		*63 - 125*

Lab Sample ID: 240-89302-5 MSD
Matrix: Water
Analysis Batch: 307882

Client Sample ID: GW-17360-121217-SK-005
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	0.28	J B	10.0	7.64		ug/L		74	52 - 129	10	13

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*71*		*63 - 125*

Lab Sample ID: MB 240-308152/5
Matrix: Water
Analysis Batch: 308152

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			12/18/17 13:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 125*		*12/18/17 13:24*	*1*

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-308152/4
Matrix: Water
Analysis Batch: 308152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			10.0	7.96		ug/L		80	59 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*81*		*63 - 125*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-200657/1-A
Matrix: Water
Analysis Batch: 200881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 200657

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.05	J	2.0	0.35	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluoropentanoic acid (PFPeA)	0.889	J	2.0	0.49	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorohexanoic acid (PFHxA)	0.895	J	2.0	0.58	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluoroheptanoic acid (PFHpA)	0.739	J	2.0	0.25	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorooctanoic acid (PFOA)	0.927	J	2.0	0.85	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorononanoic acid (PFNA)	0.865	J	2.0	0.27	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorodecanoic acid (PFDA)	0.794	J	2.0	0.31	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorododecanoic acid (PFDoA)	0.804	J	2.0	0.55	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorotridecanoic Acid (PFTriA)	2.0	U	2.0	1.3	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorotetradecanoic acid (PFTeA)	0.829	J	2.0	0.29	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorobutanesulfonic acid (PFBS)	0.683	J	2.0	0.20	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorohexanesulfonic acid (PFHxS)	0.905	J	2.0	0.17	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.645	J	2.0	0.19	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorodecanesulfonic acid (PFDS)	0.673	J	2.0	0.32	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorooctanesulfonic acid (PFOS)	0.929	J	2.0	0.54	ng/L		12/20/17 09:03	12/21/17 01:12	1
Perfluorooctane Sulfonamide (FOSA)	1.15	J	2.0	0.35	ng/L		12/20/17 09:03	12/21/17 01:12	1
6:2FTS	20	U	20	2.0	ng/L		12/20/17 09:03	12/21/17 01:12	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*104*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C4 PFBA	*112*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C2 PFHxA	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C2 PFDA	*132*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C2 PFUnA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C2 PFDoA	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
18O2 PFHxS	*113*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C4 PFOS	*114*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C4-PFHpA	*116*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
13C5 PFPeA	*112*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*
M2-6:2FTS	*66*		*25 - 150*	*12/20/17 09:03*	*12/21/17 01:12*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-200657/2-A
Matrix: Water
Analysis Batch: 200881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 200657

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	39.1		ng/L		98	78 - 138
Perfluoropentanoic acid (PFPeA)	40.0	37.6		ng/L		94	66 - 136
Perfluorohexanoic acid (PFHxA)	40.0	38.0		ng/L		95	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	34.2		ng/L		86	70 - 130
Perfluorononanoic acid (PFNA)	40.0	39.3		ng/L		98	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	38.5		ng/L		96	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	36.4		ng/L		91	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	43.6		ng/L		109	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	42.7		ng/L		107	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	35.7		ng/L		89	63 - 123
Perfluorobutanesulfonic acid (PFBS)	35.4	36.3		ng/L		103	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.3		ng/L		94	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	33.2		ng/L		87	83 - 143
Perfluorodecanesulfonic acid (PFDS)	38.6	38.6		ng/L		100	75 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	35.7		ng/L		96	74 - 134
Perfluorooctane Sulfonamide (FOSA)	40.0	40.1		ng/L		100	82 - 142

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*101*		*25 - 150*
13C4 PFBA	*109*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*111*		*25 - 150*
13C2 PFDA	*131*		*25 - 150*
13C2 PFUnA	*113*		*25 - 150*
13C2 PFDoA	*109*		*25 - 150*
18O2 PFHxS	*108*		*25 - 150*
13C4 PFOS	*111*		*25 - 150*
13C4-PFHpA	*112*		*25 - 150*
13C5 PFPeA	*109*		*25 - 150*
M2-6:2FTS	*64*		*25 - 150*

Lab Sample ID: LCSD 320-200657/3-A
Matrix: Water
Analysis Batch: 200881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 200657

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	39.8		ng/L		100	78 - 138	2	30
Perfluoropentanoic acid (PFPeA)	40.0	38.0		ng/L		95	66 - 136	1	30
Perfluorohexanoic acid (PFHxA)	40.0	37.0		ng/L		93	76 - 136	3	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-200657/3-A
Matrix: Water
Analysis Batch: 200881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 200657

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)			40.0	39.5		ng/L		99	78 - 138	3	30
Perfluorooctanoic acid (PFOA)			40.0	37.8		ng/L		94	70 - 130	10	30
Perfluorononanoic acid (PFNA)			40.0	39.2		ng/L		98	77 - 137	0	30
Perfluorodecanoic acid (PFDA)			40.0	36.7		ng/L		92	74 - 134	5	30
Perfluoroundecanoic acid (PFUnA)			40.0	36.9		ng/L		92	68 - 128	1	30
Perfluorododecanoic acid (PFDoA)			40.0	42.2		ng/L		106	72 - 132	3	30
Perfluorotridecanoic Acid (PFTriA)			40.0	39.8		ng/L		100	56 - 163	7	30
Perfluorotetradecanoic acid (PFTeA)			40.0	38.2		ng/L		96	63 - 123	7	30
Perfluorobutanesulfonic acid (PFBS)			35.4	35.8		ng/L		101	79 - 139	1	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	32.7		ng/L		90	77 - 137	5	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	33.9		ng/L		89	83 - 143	2	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.2		ng/L		102	75 - 135	2	30
Perfluorooctanesulfonic acid (PFOS)			37.1	36.5		ng/L		98	74 - 134	2	30
Perfluorooctane Sulfonamide (FOSA)			40.0	37.7		ng/L		94	82 - 142	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C8 FOSA	*108*		*25 - 150*
13C4 PFBA	*111*		*25 - 150*
13C2 PFHxA	*114*		*25 - 150*
13C4 PFOA	*100*		*25 - 150*
13C5 PFNA	*112*		*25 - 150*
13C2 PFDA	*134*		*25 - 150*
13C2 PFUnA	*112*		*25 - 150*
13C2 PFDoA	*112*		*25 - 150*
18O2 PFHxS	*114*		*25 - 150*
13C4 PFOS	*111*		*25 - 150*
13C4-PFHpA	*112*		*25 - 150*
13C5 PFPeA	*110*		*25 - 150*
M2-6:2FTS	*70*		*25 - 150*

Lab Sample ID: MB 320-201694/1-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201694

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.397	J	2.0	0.35	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		12/28/17 12:46	12/29/17 15:23	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-201694/1-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201694

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorotridecanoic Acid (PFTriA)	2.0	U	2.0	1.3	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.29	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorohexanesulfonic acid (PFHxS)	0.276	J	2.0	0.17	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.54	ng/L		12/28/17 12:46	12/29/17 15:23	1
Perfluorooctane Sulfonamide (FOSA)	2.0	U	2.0	0.35	ng/L		12/28/17 12:46	12/29/17 15:23	1
6:2FTS	20	U	20	2.0	ng/L		12/28/17 12:46	12/29/17 15:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*88*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C4 PFBA	*97*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C2 PFHxA	*98*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C4 PFOA	*107*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C5 PFNA	*100*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C2 PFDA	*106*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C2 PFUnA	*103*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C2 PFDoA	*100*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
18O2 PFHxS	*98*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C4 PFOS	*95*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C4-PFHpA	*105*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
13C5 PFPeA	*99*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*
M2-6:2FTS	*120*		*25 - 150*	*12/28/17 12:46*	*12/29/17 15:23*	*1*

Lab Sample ID: LCS 320-201694/2-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201694

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	41.7		ng/L		104	78 - 138
Perfluoropentanoic acid (PFPeA)	40.0	38.8		ng/L		97	66 - 136
Perfluorohexanoic acid (PFHxA)	40.0	39.7		ng/L		99	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	36.9		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	40.0	39.2		ng/L		98	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	38.9		ng/L		97	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	34.7		ng/L		87	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	43.0		ng/L		107	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	49.7		ng/L		124	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	39.2		ng/L		98	63 - 123

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-201694/2-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201694

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	35.4	36.3		ng/L		103	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.6		ng/L		95	77 - 137
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.7		ng/L		102	83 - 143
Perfluorodecanesulfonic acid (PFDS)	38.6	37.0		ng/L		96	75 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	35.4		ng/L		95	74 - 134
Perfluorooctane Sulfonamide (FOSA)	40.0	41.6		ng/L		104	82 - 142

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*85*		*25 - 150*
13C4 PFBA	*96*		*25 - 150*
13C2 PFHxA	*97*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*105*		*25 - 150*
13C2 PFUnA	*102*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*97*		*25 - 150*
13C4-PFHpA	*93*		*25 - 150*
13C5 PFPeA	*97*		*25 - 150*
M2-6:2FTS	*118*		*25 - 150*

Lab Sample ID: LCSD 320-201694/3-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201694

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	41.7		ng/L		104	78 - 138	0	30
Perfluoropentanoic acid (PFPeA)	40.0	38.0		ng/L		95	66 - 136	2	30
Perfluorohexanoic acid (PFHxA)	40.0	40.1		ng/L		100	76 - 136	1	30
Perfluoroheptanoic acid (PFHpA)	40.0	37.3		ng/L		93	78 - 138	14	30
Perfluorooctanoic acid (PFOA)	40.0	38.1		ng/L		95	70 - 130	3	30
Perfluorononanoic acid (PFNA)	40.0	40.5		ng/L		101	77 - 137	3	30
Perfluorodecanoic acid (PFDA)	40.0	39.2		ng/L		98	74 - 134	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	35.8		ng/L		89	68 - 128	3	30
Perfluorododecanoic acid (PFDoA)	40.0	42.4		ng/L		106	72 - 132	1	30
Perfluorotridecanoic Acid (PFTriA)	40.0	45.7		ng/L		114	56 - 163	8	30
Perfluorotetradecanoic acid (PFTeA)	40.0	38.1		ng/L		95	63 - 123	3	30
Perfluorobutanesulfonic acid (PFBS)	35.4	38.9		ng/L		110	79 - 139	7	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-201694/3-A
Matrix: Water
Analysis Batch: 202092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)			36.4	35.1		ng/L		97	77 - 137	1	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	39.7		ng/L		104	83 - 143	3	30
Perfluorodecanesulfonic acid (PFDS)			38.6	37.8		ng/L		98	75 - 135	2	30
Perfluorooctanesulfonic acid (PFOS)			37.1	35.6		ng/L		96	74 - 134	1	30
Perfluorooctane Sulfonamide (FOSA)			40.0	41.4		ng/L		103	82 - 142	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C8 FOSA	*88*		*25 - 150*
13C4 PFBA	*98*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFOA	*109*		*25 - 150*
13C5 PFNA	*105*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*104*		*25 - 150*
13C2 PFDoA	*94*		*25 - 150*
18O2 PFHxS	*98*		*25 - 150*
13C4 PFOS	*102*		*25 - 150*
13C4-PFHpA	*107*		*25 - 150*
13C5 PFPeA	*98*		*25 - 150*
M2-6:2FTS	*124*		*25 - 150*

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	DCA (63-125)								
240-89302-1	GW-17360-121217-SK-001	82								
240-89302-2	GW-17360-121217-SK-002	71								
240-89302-3	GW-17360-121217-SK-003	71								
240-89302-4	GW-17360-121217-SK-004	83								
240-89302-5	GW-17360-121217-SK-005	72								
240-89302-5 MS	GW-17360-121217-SK-005	72								
240-89302-5 MSD	GW-17360-121217-SK-005	71								
240-89302-6	GW-17360-121217-SK-006	70								
240-89302-7	GW-17360-121217-SK-007	71								
LCS 240-307882/4	Lab Control Sample	69								
LCS 240-308152/4	Lab Control Sample	81								
MB 240-307882/5	Method Blank	70								
MB 240-308152/5	Method Blank	83								

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Client Sample ID: GW-17360-121217-SK-001
Lab Sample ID: 240-89302-1
Date Collected: 12/12/17 13:15
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	308152	12/18/17 14:13	SAM	TAL CAN

Client Sample ID: GW-17360-121217-SK-002
Lab Sample ID: 240-89302-2
Date Collected: 12/12/17 13:01
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	307882	12/15/17 13:29	SAM	TAL CAN

Client Sample ID: GW-17360-121217-SK-003
Lab Sample ID: 240-89302-3
Date Collected: 12/12/17 13:06
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	307882	12/15/17 13:53	SAM	TAL CAN

Client Sample ID: GW-17360-121217-SK-004
Lab Sample ID: 240-89302-4
Date Collected: 12/12/17 14:36
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	308152	12/18/17 14:38	SAM	TAL CAN
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 01:36	JRB	TAL SAC

Client Sample ID: GW-17360-121217-SK-005
Lab Sample ID: 240-89302-5
Date Collected: 12/12/17 15:15
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	307882	12/15/17 14:44	SAM	TAL CAN
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 01:44	JRB	TAL SAC
Total/NA	Prep	3535	RE		201694	12/28/17 16:26	KMK	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1	202092	12/29/17 16:18	AAR	TAL SAC

Client Sample ID: GW-17360-121217-SK-006
Lab Sample ID: 240-89302-6
Date Collected: 12/12/17 15:56
Matrix: Water
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	307882	12/15/17 15:58	SAM	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Client Sample ID: GW-17360-121217-SK-006

Lab Sample ID: 240-89302-6
Matrix: Water
Date Collected: 12/12/17 15:56
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 01:52	JRB	TAL SAC

Client Sample ID: GW-17360-121217-SK-007

Lab Sample ID: 240-89302-7
Matrix: Water
Date Collected: 12/12/17 16:40
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	307882	12/15/17 16:23	SAM	TAL CAN
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 02:00	JRB	TAL SAC

Client Sample ID: W-17360-121217-SK-008

Lab Sample ID: 240-89302-8
Matrix: Water
Date Collected: 12/12/17 16:50
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 02:08	JRB	TAL SAC

Client Sample ID: W-17360-121217-SK-009

Lab Sample ID: 240-89302-9
Matrix: Water
Date Collected: 12/12/17 16:55
Date Received: 12/13/17 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			200657	12/20/17 09:03	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	200881	12/21/17 02:15	JRB	TAL SAC

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. TestAmerica Job ID: 240-89302-1
Project/Site: 17360, Former Grand Rapids Metal Fab

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-055	01-31-18
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-18
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-18
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	12-31-17 *
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-18
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-18
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-18
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	07-31-18
USDA	Federal		P330-11-00436	12-30-17 *
USEPA UCMR	Federal	1	CA00044	11-06-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: GHD Services Inc. TestAmerica Job ID: 240-89302-1
Project/Site: 17360, Former Grand Rapids Metal Fab

Laboratory: TestAmerica Sacramento (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-28-19

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

1.4/1.7
MICHIGAN 190

Chain of Custody Record

230720

T.A. # 24019388

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: J. Quigley	Site Contact: S. Kippen	Date: 12-12	COC No:
Company Name: GHD	Tel/Fax:	Lab Contact:	Carrier: FedEx	1 of 1 COCs
Address: 26850 Haggerty Rd	Analysis Turnaround Time			Sampler: SK / SH
City/State/Zip: Farmington Hills, M.I. 48331	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: (248) 893-3400	TAT if different from Below			Walk-in Client:
Fax: chemdet@ghd.com	☒ 2 weeks (circled) ☐ 1 week ☐ 2 days ☐ 1 day			Lab Sampling:
Project Name: Racer Wyoming				Job / SDG No.:
Site: Grand Rapids, M.I.				
PO# 5500:				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	1,4 Dioxane PFC's	Sample Specific Notes:
GW-17360-121217-SK-001	12-12-17	13:15	G	GW	3			X	
002		13:01			3			X	
003		13:06			3			X	
004		14:36			4			X X	
005		15:15			11		(X)	X X	
006		15:56			4			X X	
007		16:40			4			X X	
W-17360-121217-SK-008		16:50		W	1			X	
-009		16:55		W	1			X	

SK

240-89302 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

	Company	Date/Time		Company	Date/Time
Relinquished by:	GHD	12/12/17 19:30	Received by:	TAC	12-13-17 1025
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

1/3/2018

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 89302**

Canton Facility

Client GHD Site Name _____ Cooler unpacked by: MBB

Cooler Received on 12-13-17 Opened on 12-13-17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # Multiple Foam Box Client Cooler Box Other _____

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other _____

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **-0.3** °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp. 1.1 °C

IR GUN #36 (CF **+0.3**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

~~IR GUN # 627 (CF **-1.3**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes	~~No~~
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No ~~NA~~
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	~~No~~
-Were tamper/custody seals intact and uncompromised?	Yes	No ~~NA~~
3. Shippers' packing slip attached to the cooler(s)?	~~Yes~~	No
4. Did custody papers accompany the sample(s)?	~~Yes~~	No
5. Were the custody papers relinquished & signed in the appropriate place?	~~Yes~~	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	~~Yes~~	No
7. Did all bottles arrive in good condition (Unbroken)?	~~Yes~~	No
8. Could all bottle labels be reconciled with the COC?	~~Yes~~	No
9. Were correct bottle(s) used for the test(s) indicated?	~~Yes~~	No
10. Sufficient quantity received to perform indicated analyses?	~~Yes~~	No
11. Are these work share samples?	Yes	~~No~~
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No	~~NA~~ pH Strip Lot# **HC730269**
13. Were VOAs on the COC?	~~Yes~~	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	~~No~~ NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	~~No~~
16. Was a LL Hg or Me Hg trip blank present? _____	Yes	~~No~~

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

17. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

WI-NC-099

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-80894.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-89302-1
Address: 880 Riverside Parkway,	Due Date Requested: 1/2/2018			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: 17360, Former Grand Rapids Metal Fab	Project #: 24019388			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - Di Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC (MOD) PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GW-17360-121217-SK-004 (240-89302-4)	12/12/17	14:36 Eastern		Water			X	1	Add-ons needed
GW-17360-121217-SK-005 (240-89302-5)	12/12/17	15:15 Eastern		Water			X	2	Add-ons needed
GW-17360-121217-SK-005 (240-89302-5MS)	12/12/17	15:15 Eastern	MS	Water			X	1	Add-ons needed
GW-17360-121217-SK-005 (240-89302-5MSD)	12/12/17	15:15 Eastern	MSD	Water			X	1	Add-ons needed
GW-17360-121217-SK-006 (240-89302-6)	12/12/17	15:56 Eastern		Water			X	1	Add-ons needed
GW-17360-121217-SK-007 (240-89302-7)	12/12/17	16:40 Eastern		Water			X	1	Add-ons needed

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/13/17 1502	240	[signature]	12/14/17 820	TAL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.8

Ver: 09/20/2016

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-80895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-89302-1
Address: 880 Riverside Parkway,	Due Date Requested: 1/2/2018			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: 17360, Former Grand Rapids Metal Fab	Project #: 24019388			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC (MOD) PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GW-17360-121217-SK-008 (240-89302-8)	12/12/17	16:50 Eastern		Water			X	1	Add-ons needed
GW-17360-121217-SK-009 (240-89302-9)	12/12/17	16:55 Eastern		Water			X	1	Add-ons needed

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/13/17 1562	240	[signature]	12/14/17 820	TALS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.8

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-89302-1

Login Number: 89302
List Number: 2
Creator: Her, David A

List Source: TestAmerica Sacramento
List Creation: 12/14/17 04:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.8 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: 17360, Former Grand Rapids Metal Fab

TestAmerica Job ID: 240-89302-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFHxA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)	PFDoA (25-150)
240-89302-4	GW-17360-121217-SK-004	117	69	97	104	121	140	128	124
240-89302-5	GW-17360-121217-SK-005	108	52	90	102	116	130	114	115
240-89302-5 - RE	GW-17360-121217-SK-005	97	48	82	110	107	106	103	101
240-89302-6	GW-17360-121217-SK-006	109	59	91	101	113	132	108	116
240-89302-7	GW-17360-121217-SK-007	106	50	86	107	119	123	116	119
240-89302-8	W-17360-121217-SK-008	104	109	111	108	117	121	112	117
240-89302-9	W-17360-121217-SK-009	99	108	110	107	117	119	110	116
LCS 320-200657/2-A	Lab Control Sample	101	109	106	103	111	131	113	109
LCS 320-201694/2-A	Lab Control Sample	85	96	97	106	99	105	102	93
LCSD 320-200657/3-A	Lab Control Sample Dup	108	111	114	100	112	134	112	112
LCSD 320-201694/3-A	Lab Control Sample Dup	88	98	94	109	105	109	104	94
MB 320-200657/1-A	Method Blank	104	112	113	105	113	132	116	113
MB 320-201694/1-A	Method Blank	88	97	98	107	100	106	103	100

		Percent Isotope Dilution Recovery (Acceptance Limits)				
Lab Sample ID	Client Sample ID	PFHxS (25-150)	PFOS (25-150)	PFHpA (25-150)	PFPeA (25-150)	M262FTS (25-150)
240-89302-4	GW-17360-121217-SK-004	113	119	99	93	129
240-89302-5	GW-17360-121217-SK-005	110	115	96	83	119
240-89302-5 - RE	GW-17360-121217-SK-005	97	101	88	79	199 *
240-89302-6	GW-17360-121217-SK-006	105	115	100	89	107
240-89302-7	GW-17360-121217-SK-007	110	116	91	88	132
240-89302-8	W-17360-121217-SK-008	111	112	117	116	67
240-89302-9	W-17360-121217-SK-009	111	115	114	113	69
LCS 320-200657/2-A	Lab Control Sample	108	111	112	109	64
LCS 320-201694/2-A	Lab Control Sample	95	97	93	97	118
LCSD 320-200657/3-A	Lab Control Sample Dup	114	111	112	110	70
LCSD 320-201694/3-A	Lab Control Sample Dup	98	102	107	98	124
MB 320-200657/1-A	Method Blank	113	114	116	112	66
MB 320-201694/1-A	Method Blank	98	95	105	99	120

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFHxA = 13C2 PFHxA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFHpA = 13C4-PFHpA
PFPeA = 13C5 PFPeA
M262FTS = M2-6:2FTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sa

240-89302 Field Sheet

Tracking # A13A 02981139

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes:

Therm. ID: (AK-2) / AK-3 / HACCP /Other

Ice X Wet X Dry Other

Cooler Custody Seal: —

Sample Custody Seal: —

Cooler ID: —

Temp: Observed 3.8°C

Corrected: —

From: Temp Blank ☐ Sample ☒

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace?	☐	☐	☒
CoC is complete w/o discrepancies?	☒	☐	☐
Samples received within holding time?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Cooler compromised/tampered with?	☐	☒	☐
Samples compromised/tampered with?	☐	☒	☐
COC and Samples w/o discrepancies?	☒	☐	☐
Sample containers have legible labels?	☒	☐	☐
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided.	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Initials: AA Date: 12/14/17

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

tal R 12/14/17

Attachment C
Data Validation Memorandum

Memorandum

January 26, 2018

To:	Jennifer Quigley	Ref. No.:	017360
From:	Ruth Mickle/tl/81/Det	Tel:	248-893-3400

Subject: **Analytical Results and Reduced Validation**
Groundwater Sampling Event
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

1. Introduction

This document details a reduced validation of analytical results for groundwater samples collected in support of groundwater sampling at the Former Grand Rapids Metal Plant Site during December 2017. Samples were submitted to TestAmerica Laboratories, Inc., located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS) and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "Former Grand Rapids Metal Plant Work Plan Quality Assurance Project Plan (QAPP)", Revision 1, January 6, 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. With one exception, the samples were prepared and analyzed within the required holding times. Sample GW-17360-121217-SK-005 was re-extracted outside the method holding time due to method blank contamination during the original

perfluorinated hydrocarbons (PFC) analysis. The results from reanalysis confirmed the original results and are not reported here.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (4 +/- 2°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Low concentrations of target parameters were detected in the method blanks, which indicate a potential for laboratory contamination. The associated samples that contained similar concentrations of these compounds are evidence of laboratory contamination and the results were qualified non-detect, as detailed in Table 4.

4. Isotope Dilution Analytes (IDA)

IDA data were evaluated for all PFC sample analyses.

IDAs are isotopically labeled analogs of the analytes of interest added to the investigative and QC samples at the time of extraction. All results are then calculated as a ratio of the IDA responses.

The IDA recovery results for each sample were evaluated against the following criteria:

i) IDA recoveries must be within 25-150%

All PFC IDA recoveries for the reported sample results met the above criteria

5. Surrogate Spike Recoveries – 1,4-Dioxane Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for 1,4-dioxane determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

6. Laboratory Control Sample (LCS) Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits or outlying percent recoveries did not result in qualification, demonstrating acceptable analytical accuracy.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with the compounds of interest. All percent recoveries and RPD values were within the laboratory control limits criteria, demonstrating acceptable analytical accuracy and precision.

8. Field QA/QC Samples

The field QA/QC consisted of one rinse blank sample, one field blank sample and one field duplicate set.

Rinse Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, one rinse blank was submitted for analysis, as identified in Table 1. The rinse blank yielded two low level detections of target PFCs. However, since the associated sample detections were qualified non-detect based on method blank results, no data qualification was required based on rinse blank results All remaining rinse blank results were non-detect for target parameters.

Field Blank Sample Analysis

To assess ambient conditions at the site and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. The field blank yielded one low level target PFC detection. However, since the associated sample detections were qualified non-detect based on method blank results, no data qualification was required based on field blank results. All remaining field blank results were non-detect for target parameters.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value for water samples.

The field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

9. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were reported as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

10. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
PFC and 1,4-dioxane -Groundwater Sampling
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters: PFCs	Analysis/Parameters: 1,4-Dioxane	Comments
TA SDG No.: 240-89302-1							
GW-17360-121217-SK-001	MW44-12		12/12/2017	13:15	--	X	
GW-17360-121217-SK-002	MW49-13		12/12/2017	13:01	--	X	
GW-17360-121217-SK-003	MW49-13		12/12/2017	13:06	--	X	FD (MW49-13)
GW-17360-121217-SK-004	MW32-12		12/12/2017	14:36	X	X	
GW-17360-121217-SK-005	MW35-12		12/12/2017	15:15	X	X	MS/MSD- partial parameters
GW-17360-121217-SK-006	MW60-14		12/12/2017	15:56	X	X	
GW-17360-121217-SK-007	MW41-12		12/12/2017	16:40	X	X	
W-17360-121217-SK-008	Field Blank		12/12/2017	16:50	X	--	Field blank
W-17360-121217-SK-009	Equipment Blank		12/12/2017	16:55	X	--	Equipment blank

Notes:

FD - Field Duplicate sample of sample in parenthesis
MS/MSD - Matrix Spike/Matrix Spike Duplicate
PFCs - Perfluorinated Hydrocarbons
SDG - Sample Delivery Group

Table 2

Validated Analytical Summary Results
Groundwater Sampling Event
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Location ID:		**MW32-12**	**MW35-12**	**MW41-12**	**MW44-12**
Sample Name:		**GW-17360-121217-SK-004**	**GW-17360-121217-SK-005**	**GW-17360-121217-SK-007**	**GW-17360-121217-SK-001**
Sample Date:		**12/12/2017**	**12/12/2017**	**12/12/2017**	**12/12/2017**
Parameters	**Unit**				
Volatile Organic Compounds					
1,4-Dioxane	µg/L	2.0 U	2.0 U	2.0 U	0.39 J
Perfluorinated Hydrocarbon Compounds					
Perfluorhexanoic acid	ng/L	85	20	100	--
Perfluoro-n-Octanoic acid	ng/L	39	14	2.1 U	--
Perfluorobutane sulfonate	ng/L	2.7 U	2.1 U	2.2 U	--
Perfluorobutanoic acid	ng/L	61	17	65	--
Perfluorodecanesulfonic acid	ng/L	6.5	2.1 U	2.1 U	--
Perfluorodecanoic acid	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluorododecanoic acid	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluoroheptane sulfonate	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluoroheptanoic acid	ng/L	73	19	13	--
Perfluorooctane sulfonamide	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluorooctane sulfonate	ng/L	13	2.1 U	2.1 U	--
Perfluorononanoic acid	ng/L	7.0	2.1 U	2.1 U	--
Perfluoropentanoic acid	ng/L	240	51	190	--
Perfluorotetradecanoic acid	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluorotridecanoic acid	ng/L	2.2 U	2.1 U	2.1 U	--
Perfluoroundecanoic acid	ng/L	2.2 U	2.1 U	2.1 U	--
Perflurorohexane sulfonate	ng/L	2.2 U	2.1 U	2.1 U	--
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ng/L	6.2 J	21 U	21 U	--

Table 2

Validated Analytical Summary Results
Groundwater Sampling Event
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Location ID:		**MW49-13**	**MW49-13**	**MW60-14**
Sample Name:		**GW-17360-121217-SK-002**	**GW-17360-121217-SK-003**	**GW-17360-121217-SK-006**
Sample Date:		**12/12/2017**	**12/12/2017**	**12/12/2017**
			Duplicate	
Parameters	**Unit**			
Volatile Organic Compounds				
1,4-Dioxane	µg/L	2.0 U	2.0 U	2.0 U
Perfluorinated Hydrocarbon Compounds				
Perfluorhexanoic acid	ng/L	--	--	50
Perfluoro-n-Octanoic acid	ng/L	--	--	2.9 U
Perfluorobutane sulfonate	ng/L	--	--	2.2 U
Perfluorobutanoic acid	ng/L	--	--	25
Perfluorodecanesulfonic acid	ng/L	--	--	2.2 U
Perfluorodecanoic acid	ng/L	--	--	2.2 U
Perfluorododecanoic acid	ng/L	--	--	2.2 U
Perfluoroheptane sulfonate	ng/L	--	--	2.2 U
Perfluoroheptanoic acid	ng/L	--	--	21
Perfluorooctane sulfonamide	ng/L	--	--	2.2 U
Perfluorooctane sulfonate	ng/L	--	--	2.2 U
Perfluorononanoic acid	ng/L	--	--	2.2 U
Perfluoropentanoic acid	ng/L	--	--	66
Perfluorotetradecanoic acid	ng/L	--	--	2.2 U
Perfluorotridecanoic acid	ng/L	--	--	2.2 U
Perfluoroundecanoic acid	ng/L	--	--	2.2 U
Perflurorohexane sulfonate	ng/L	--	--	2.5 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ng/L	--	--	22 U

Notes:

J- Estimated concentration
U - Not dtected at the associated reporting limit

Table 3

Analytical Methods
PFC and 1,4-dioxane -Groundwater Sampling
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
1,4-Dioxane	SW 8260B SIM	water	-	14
PFCs	EPA 537 modified	water	7	40

Notes:

Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
PFCs - Perfluorinated Hydrocarbons

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
PFC and 1,4-dioxane -Groundwater Sampling
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Parameter	Analyte	Analysis Date	Blank Result	Sample ID	Original Result	Qualified Result	Units
Select Volatile	1,4-Dioxane	12/15/2017	0.438 J	GW-17360-121217-SK-002	0.25 JB	2.0 U	ug/L
				GW-17360-121217-SK-005	0.28 JB	2.0 U	ug/L
PFCs	Perfluorobutane sulfonate	12/21/2017	0.683 J	GW-17360-121217-SK-004	2.7 B	2.7 U	ng/L
				GW-17360-121217-SK-005	1.2 JB	2.1 U	ng/L
				GW-17360-121217-SK-006	1.7 JB	2.2 U	ng/L
				GW-17360-121217-SK-007	2.2 B	2.2 U	ng/L
PFCs	Perfluorodecanoic acid	12/21/2017	0.794 J	GW-17360-121217-SK-004	1.1 JB	2.2 U	ng/L
PFCs	Perfluoroheptane sulfonate	12/21/2017	0.645 J	GW-17360-121217-SK-004	0.24 JB	2.2 U	ng/L
PFCs	Perfluoro-n-Octanoic acid	12/21/2017	0.927 J	GW-17360-121217-SK-006	2.9 B	2.9 U	ng/L
PFCs	Perfluorooctane sulfonamide	12/21/2017	1.15 J	GW-17360-121217-SK-004	1.2 JB	2.2 U	ng/L
				GW-17360-121217-SK-005	0.70 JB	2.1 U	ng/L
				GW-17360-121217-SK-006	0.59 JB	2.2 U	ng/L
PFCs	Perfluorooctane sulfonate	12/21/2017	0.929 J	GW-17360-121217-SK-005	1.2 JB	2.1 U	ng/L
				GW-17360-121217-SK-006	1.1 JB	2.2 U	ng/L
PFCs	Perfluorononanoic acid	12/21/2017	0.865 J	GW-17360-121217-SK-005	0.48 JB	2.1 U	ng/L
				GW-17360-121217-SK-006	0.78 JB	2.2 U	ng/L
				GW-17360-121217-SK-007	0.34 JB	2.1 U	ng/L

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
PFC and 1,4-dioxane -Groundwater Sampling
Former Grand Rapids Metal Plant
Wyoming, Michigan
December 2017

Parameter	Analyte	Analysis Date	Blank Result	Sample ID	Original Result	Qualified Result	Units
PFCs	Perflurorohexane sulfonate	12/21/2017	0.905 J	GW-17360-121217-SK-004	1.9 JB	2.2 U	ng/L
				GW-17360-121217-SK-005	1.2 JB	2.1 U	ng/L
				GW-17360-121217-SK-006	2.5 B	2.5 U	ng/L
				GW-17360-121217-SK-007	1.3 JB	2.1 U	ng/L

Notes:

PFCs - Perfluorinated Hydrocarbons
U - Not detected at the associated reporting limit
B - Laboratory qualifier - result detected in associated method blank
J - Estimated concentration

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